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# Carroll College Bulletin

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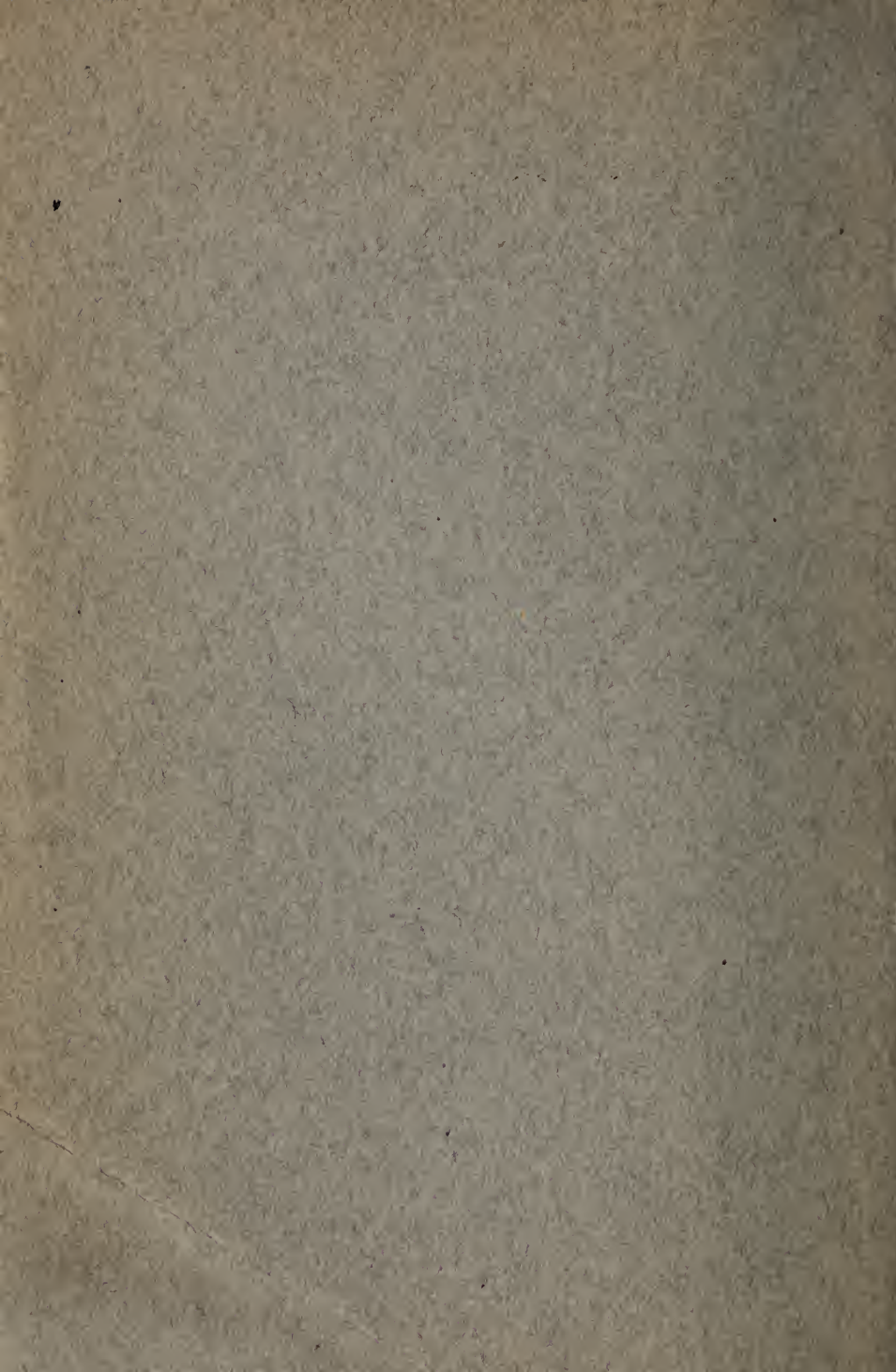
The Annual Catalogue

1908-1909

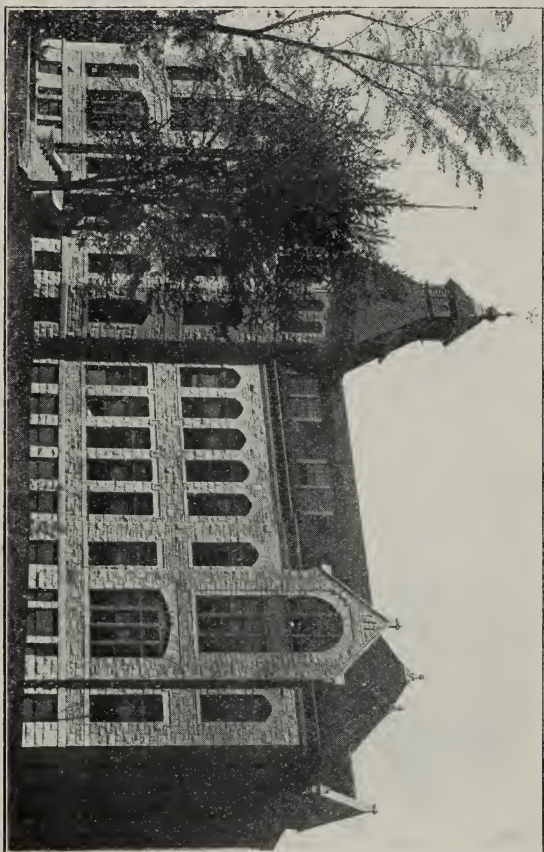
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Waukesha, Wisconsin

February, 1909







MAIN HALL.

# CARROLL COLLEGE BULLETIN

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THE ANNUAL CATALOGUE  
FOR THE ACADEMIC YEAR  
1908 - 1909

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WITH ANNOUNCEMENTS FOR THE YEAR  
1909 - 1910.

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WAUKESHA, WISCONSIN  
PUBLISHED BY THE COLLEGE FOUR TIMES A YEAR, IN NOVEMBER,  
FEBRUARY, APRIL AND AUGUST.

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February, 1909.

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## Calendar for 1909-10.

### 1909

<i>February 1</i>	Second semester begins; Monday.
<i>March 25</i>	Annual Prize Debate between the Aristonian and Philomathean Literary societies; Thursday, 8. P. M.
<i>March 26</i>	Spring recess begins; Friday, 4 P. M.
<i>April 6</i>	Spring recess ends; Tuesday, 8 A. M.
<i>June 13</i>	Baccalaureate Sermon; Sunday.
<i>June 14</i>	Senior Orations, Academy; Monday, 10 A. M.
<i>June 14</i>	Field Day Exercises; 2 P. M.
<i>June 14</i>	Annual Recital by Departments of Music and Oratory; Monday, 8 P. M.
<i>June 15</i>	Chapel Service; Tuesday, 10 A. M.
<i>June 15</i>	Annual meeting Board of Trustees; Tuesday, 1:30 P. M.
<i>June 15</i>	Class Day Exercises; Tuesday, 3 P. M.
<i>June 15</i>	Alumni Banquet; Tuesday, 6 P. M.
<i>June 16</i>	Commencement Exercises; Wednesday, 10 A. M.
<i>June 16</i>	President's Reception; Wednesday, 3 to 5 P. M.
<i>September 14.</i>	Registration; Tuesday, 9 to 12 A. M., 1 to 4 P. M.
<i>September 15</i>	First semester begins; Wednesday, 10 A. M.
<i>November 25</i>	Thanksgiving; a holiday.
<i>December 17</i>	Christmas recess begins; Friday, 4 P. M.

### 1910

<i>January 4</i>	Christmas recess ends; Tuesday, 8 A. M.
<i>January 28</i>	First semester ends; Friday.
<i>January 31</i>	Second semester begins; Monday.
<i>March 24</i>	Annual Prize Debate between the Aristonian and Philomathean Literary societies; Thursday, 8 P. M.

<i>March 25</i>	Spring recess begins ; Friday, 4 P. M.
<i>April 5</i>	Spring recess ends ; Tuesday, 8 A. M.
<i>June 12</i>	Baccalaureate Sermon ; Sunday.
<i>June 13</i>	Senior Orations, Academy ; Monday, 10 A. M.
<i>June 13</i>	Annual Recital by Departments of Music and Oratory ; Monday, 8 P. M.
<i>June 14</i>	Chapel Service ; Tuesday, 10 A. M.
<i>June 14</i>	Annual meeting Board of Trustees ; Tuesday, 1:30 P. M.
<i>June 14</i>	Field Day ; Tuesday, 2 P. M.
<i>June 14</i>	Alumni Banquet, Tuesday, 6 P. M.
<i>June 14</i>	Commencement Exercises ; Wednesday, 10 A. M.
<i>June 14</i>	President's Reception ; Wednesday, 3 to 5 P. M.

## The Board of Trustees.

Appointed by the Synod of the Presbyterian Church of Wisconsin.

TERM EXPIRES JUNE, 1910.

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TERM EXPIRES JUNE, 1911.

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MATTHIAS J. W. PHILLIPS.

*Laboratory Assistant in Biology.*

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*Instructor in Piano, History of Music and Harmony.*

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BLANCHE WILLSON.

*Instructor in Mandolin and Guitar.*

EARL FREEMAN WHITMORE.

*Instructor in Stenography and Typewriting.*

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*Physical Director.*



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*Registrar and Secretary of the Faculty.*

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*Matron of Elizabeth Voorhees Hall.*

ALLIE ANTHEA PITTS.

*Secretary to the President.*

B. W. WATT.

*Custodian.*

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CURRICULUM AND SCHEDULE—Ray, Hutchins, Starr.

LIBRARY—Flattery, Starr, Dancey.

GRADUATION—W. L. Rankin, Flattery, Ganfield.

PUBLICATION—Starr, Flattery, Ray, Hutchins.

PUBLIC EXERCISES—Ganfield, Rogers, M. N. Rankin.

RULES AND DISCIPLINE—Ray, Goddard, Ganfield, Guild.

ATHLETICS—Hutchins, Ganfield, McJohnston.

PROPERTY—Dancey, Rogers.

STUDENT ORGANIZATIONS—Goddard, Ganfield, W. L. Rankin,  
Guild.

SOCIAL AFFAIRS—McJohnston, Goddard, M. N. Rankin.

STUDENT ADVISERS—Ray, Hutchins, Goddard, Guild, Starr,  
Rogers, Ganfield, W. L. Rankin.RELIGIOUS WORK AND CHRISTIAN ORGANIZATIONS—Ganfield,  
Rogers, Guild.

## CARROLL COLLEGE.

### **The American College.**

"A college, according to the common definition, is the place where certain general studies are taught, such as mathematics, the humanities, the sciences." It is this. But it is far more than this. It is "an aggregate of influences which should act upon young men during the plastic years in such a way that on attaining manhood they may be able to confront the world with success." In this conception of the term, the college is a distinctively American institution. Its origin, and the determination of the nature of its development, are to be found in the conditions of American life and character, conditions demanding large vision, adaptability, power of initiative, combined with a high sense of personal responsibility.

### **Advantages of the College.**

For the realization of these ends the college possesses distinct advantages. Here the student will do his work with classes of moderate size, with required recitations, and with examinations. He will be subject to the personal influence of his teachers, men and women chosen on the basis of sound scholarship, broad culture, and high character, and will receive from them such personal attention as is necessary for the development of his highest individual possibilities. Here he will find adequate equipment for his needs, and, at the same time, all the opportunities for study, for investigation, for culture, that he can successfully appropriate in his undergraduate course. The moderate size of the college community makes it possible for the individual student to comprehend, in his experience and opportunities for contact, all, or a very considerable portion of, the interests and activities of the institution, rather than a relatively small and isolated portion, as in the larger and more pretentious institution. Hence it is that the graduates of the college have had so large a share in the leadership of our country.

### **Purpose of Carroll College.**

It is the primary purpose of Carroll College to maintain and promote the ideal of a broad, liberal culture, to direct its activities and methods toward the development of mind and character, the making of men and women, in all its plans and methods recognizing the principle that a broad foundation of general culture should precede all specialization and professional training, and that the successful life work of a scholar, or man of affairs, is conditioned on the symmetrical development of the whole man.

### **Courses of Study.**

At the same time due recognition is given to the conditions and demands of contemporary life. Recent and prevailing tendencies in our educational system and ideals have thrown added emphasis upon the function of the college in the training of the individual for the service of society. The largely increased, and increasing, demands of professional and technical training, the need of greater adaptability and command of individual powers in commercial and industrial life, render the disciplinary and cultural training of the college more and more necessary for success in these lines. The courses of study of Carroll College represent an attempt to preserve a just balance between studies of cultural and disciplinary character and those possessing an intrinsic practical value. The system of major and minor studies, of broad and representative required subjects, with large opportunities for elective work, makes it possible for the student, while pursuing a liberal course, at the same time to concentrate his attention and effort upon some one subject to such a degree as to realize in that subject a considerable acquisition and attainment, some degree of mastery, which may be utilized in a practical way after graduation.

Any of the following subjects may be chosen as a major: Philosophy; History; English; Biology; Mathematics; German; Latin; Chemistry; Physics. Certain other subjects not offered as majors may be taken in conjunction with cognate subjects to constitute a major. The suggested groups given under the various departmental statements in this Catalogue show some of the possible courses.

### **Atmosphere of the College.**

Carroll College is preëminently a Christian College. While high scholarship and broad culture are emphasized, the supreme importance of things spiritual is constantly recognized. The Bible is given its rightful place in the college curriculum, and the principles of Christianity are inculcated in the chapel service and in the class room. The members of the faculty are all Christian men and women who endeavor to present truth from the standpoint of reverent regard for things sacred and eternal, and to help the students rightly to interpret the facts and laws of life. The atmosphere of the college is distinctly religious, but not sectarian. Loyal to the trust imposed by the Synod of the Presbyterian Church of Wisconsin, the college seeks to foster a strong spiritual life, interpreting the spiritual life, not as something distinct and apart from the other phases of life, but as the finest development of them all in perfect and harmonious combination. Several Christian denominations are represented in the faculty, and students of all denominations find here a friendly and congenial atmosphere.

### **Carroll College a Coeducational Institution.**

As men and women are intended for mutual service and in all the phases of life are associated, the ideal condition for their mental and moral development is, not segregation, but association, of the sexes. The policy of coeducation has been adopted in the belief that it is the natural method of training young people. It lessens the dangers of college life and increases its advantages. The healthful interchange of thought and feeling serves as an intellectual stimulus and a moral restraint, while the normal association of young men and women in class room and in all social and literary organizations of the college, tends to broaden the sympathies, and to awaken true manliness and womanliness.

### **Location.**

Waukesha is a city of about nine thousand inhabitants, picturesquely situated in the midst of the rolling country of the Fox River Valley, a country of hills and lakes, of woods and

fertile fields. The college buildings are upon the heights in the south part of the city and command an extended view of a rarely beautiful landscape. The beauty of the surrounding country, the proverbial healthfulness of the locality, and the purity of its far-famed waters make it a most desirable place of residence. Because of the proximity of Milwaukee many of the advantages of a large city are realized. Waukesha is a city of churches whose pastors are ready to extend a welcome to the young people of the college. The moral tone of the community is wholesome and the people are deeply interested in all educational work.

Waukesha is located on lines of three principal railway systems of Wisconsin, the Chicago and Northwestern, the Chicago, Milwaukee and St. Paul, and the Wisconsin Central, and is thus easily accessible from all parts of this and the adjoining states. It is one hundred miles from Chicago, by any of the above named roads, and twenty miles from Milwaukee. Hourly service to the latter city is provided by the electric interurban railway.

### **Campus.**

The campus consists of a wooded tract of fifteen acres on the hills to the south of the Fox River, a most favorable situation for the college. An historic interest attaches to the campus in the presence here of several large Indian effigy mounds and an Indian cornfield.

### **Buildings and Equipment.**

Plans have been made for a consistent and harmonious group of buildings, four of which have been erected and are now occupied.

The buildings are handsome and substantial structures of stone. All are heated from a central steam plant and lighted by gas and electricity.

#### **Voorhees Hall.**

Of this group the central building is Voorhees Hall, completed in 1900. This is a substantial building of stone, beauti-

ful in appearance and convenient in arrangement. In the basement or ground floor, are the gymnasium and bath and locker rooms for young men. The first floor contains the rooms of the music department and several recitation rooms. The library and chapel occupy the entire second floor. On the third floor are several recitations rooms and the Y. M. C. A. reading room. The building is heated by steam from the central heating plant and is lighted by electricity.

### **Rankin Hall of Science.**

The Walter L. Rankin Hall of Science, erected in 1906 through the munificence of Mr. and Mrs. Ralph Voorhees, is devoted almost exclusively to the laboratories and recitation rooms of the departments of Chemistry, Biology, Geology and Physics. The edifice is three stories in height with a high basement, making substantially four stories. It has a south frontage of 132 feet and is 53 feet deep. It is constructed of Waukesha limestone and is covered with a red tile roof. The construction is such that the building is well protected against fire. All of the rooms are well lighted, ventilated, and heated. The departments of Chemistry and Physics occupy the first floor and a portion of the basement. The departments of Biology and Geology occupy the second floor. The third floor contains the museum and two literary society halls.

### **Chemical Laboratories.**

The chemical laboratories are four in number: a laboratory of general chemistry, a laboratory of analytical and organic chemistry, a laboratory for water analysis, and a private laboratory for the instructor in charge. All of these laboratories are located on the first floor of Rankin Hall of Science excepting the laboratory for water analysis, which is located in the well lighted basement. Besides these laboratories there are a dark room in the basement for the storage of acids and combustible and volatile chemicals, a general supply and store room on the first floor and a balance room. The balance room opens into the laboratory of analytical chemistry and is well supplied with balances of the best makes.

The equipment of the laboratory of general chemistry is



of the most modern and approved construction. It includes reagent shelves, balance shelves, air blast, and individual working desks for sixty students. These desks are provided with drawers, lockers, gas, water, and special ventilating tubes. The ventilation of the laboratory is unexcelled. Pipes are carried from each desk to a fifty-inch steel-plate fan in the basement. The fan is driven by an electric motor and discharges into a special flue. Each desk is furnished with a complete set of apparatus, and the laboratory is well supplied with balances, chemicals and general apparatus for a thorough course in general chemistry.

The laboratory of analytical chemistry is equipped with desks for 36 students. It is supplied with reagent shelves, air blast, draft-chamber and the best apparatus for accurate analytical work. The draft-chamber is connected with the exhaust fan. The laboratory opens into a balance room which contains Sartorius and Becker balances.

The laboratory for water analysis contains desks for 12 students. It is provided with chemicals and apparatus needed for mineral and sanitary water analysis. The laboratory is located in the basement on the south side and is well lighted.

The store room is well supplied with refined chemicals and apparatus from the best German manufacturers. The store room will be open at stated periods for the purpose of supplying students with apparatus which is needed only for special experiments.

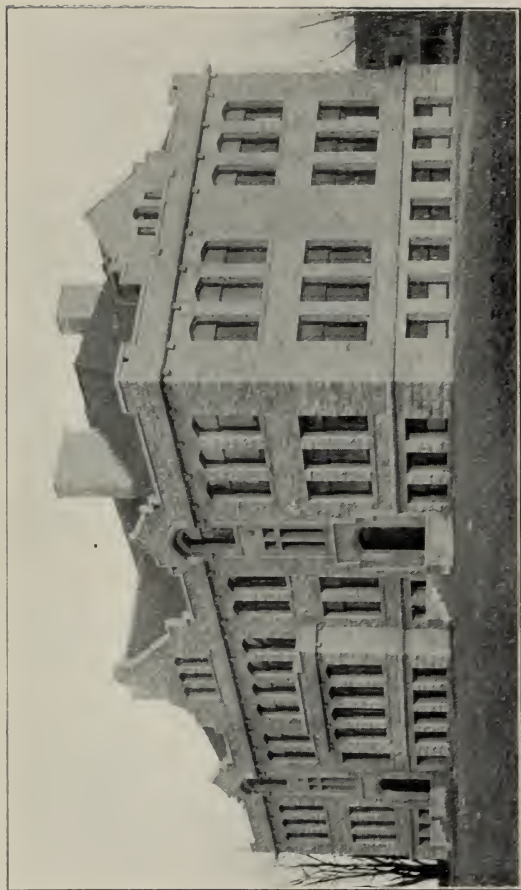
A preparation room which is equipped with chemicals, minerals, technical products, and lecture apparatus for use in the courses in experimental lectures, opens into the lecture room. The lecture table is supplied with gas, water, the electric current, and a fuming chamber connected with the exhaust fan.

### **Physical Laboratories.**

The lecture room and laboratories of the Department of Physics occupy the west end of the first floor, and a portion of the basement, of the Rankin Hall of Science.

The laboratory of general physics is 53x24 feet, with a south, west, and north exposure. It is well lighted and is pro-





RANKIN HALL OF SCIENCE.



vided with shades of special construction for darkening at any time. It contains two large wall cases, which are well supplied with apparatus for use in the study of mechanics, heat, sound, light, and electricity. The laboratory contains an instructor's table and tables for 40 students working at one time. These tables are supplied with gas and water, and with electric connection with the large storage battery located in the basement. An office and store room open into this laboratory.

The lecture room is a well lighted room with a south exposure. This also opens into the office and store room. The lecture room has a seating capacity for 50 students and is provided with a lecture table supplied with gas, water, storage battery connections, and direct and alternating current. The room can be darkened at any time, and is provided with a heliostat, stereopticon, and screen. The store room adjoining the lecture room is well supplied with apparatus for class demonstration and illustrated lectures.

In the basement there is a laboratory for advanced work in magnetism and electricity. In addition to a new collection of measuring instruments and a large storage battery there are five dynamos and motors, illustrating both direct and alternating current types of machines. The laboratories are connected with the city electric plant.

### **Biological Laboratories.**

The laboratories for biology occupy the west end of the second floor of Rankin Hall of Science. The laboratory for general biology is a large, well lighted room with desks and lockers for thirty pupils working at one time. There are two microscope cases with lockers for twenty-six microscopes and cupboards for other supplies. A Wardian case and a large aquarium, both provided with water connections, form a part of the permanent equipment. Adjoining this laboratory, is a preparation and general supply room, where paraffin imbedding and sectioning may be done. There is an advanced biological laboratory equipped with desks and lockers for eighteen microscopes and cupboards for other supplies. Just off from this is a dark room fitted for all kinds of photography work. It is used also for experiments in plant physiology. A lecture

room, accommodating 30 students, is fitted with a stereopticon and screen and can be darkened at any time.

The equipment of these laboratories includes, in addition to the fixtures already referred to, 16 compound microscopes of the Spencer Lens, No. 40 type, 16 dissecting microscopes, microtomes for all kinds of sectioning work, including a Minot automatic rotary microtome of the latest model, drying ovens, paraffin baths, steam sterilizer, camera lucida, stage and eyepiece micrometers, injecting apparatus, animal cages, collecting cases, gas pressure regulator, thermo-regulators, balances, and a collection of histological slides of different plant and animal tissues. Glassware, stains, and reagents are provided for microscopical, histological, and general laboratory work.

The museum, which is more fully described elsewhere, contains collections of insects, woods, shells, eggs, stuffed birds, and pressed plants, which are much used for illustration. A Mountjoy Natural History Chart with colored plates of birds and other animals also belongs to the department.

### **Geological Laboratory.**

This laboratory occupies the east end of the second floor of Rankin Hall of Science, and has desk room for twenty-five students. The equipment includes maps, charts, globes, and rock, mineral, and fossil specimens. Among these are thirty-five folios of the Geological Atlas of the United States; the Topographical Atlas of the United States; the Geological Atlas of Wisconsin, the Daily Weather Maps, and a collection of fifteen hundred rocks, minerals and fossils.

A voluntary observer's station in connection with the United States Weather Bureau, has been established recently at Carroll College under charge of this department. For this work the government has furnished an instrument shelter, maximum and minimum thermometers, and a rain gauge. These are used for meteorological study.

### **Mineralogical Laboratory.**

The laboratory is equipped with several hundred hand specimens of minerals and crystals for work in descriptive mineralogy. The equipment also includes celluloid and wooden

models of crystals and goniometers for the study of crystallography. The necessary apparatus, reagents and minerals in bulk are provided for blow pipe analysis.

### **Museum.**

The museum occupies a room, 53x60 feet, on the third floor of Rankin Hall of Science. The room has now eight up-right wall cases, each eight feet long. These contain the following collections:—

A collection of mounted birds, nearly all native in Wisconsin, the gift of Mr. James Miller of Shawano, Wis.

A collection of birds' eggs, a gift from Mr. T. W. Haight.

The Park Herbarium, presented by Mr. Frank Park, and containing about a thousand pressed and mounted specimens.

A collection of native Wisconsin woods mounted in a special case, a gift from Mr. Frank Park.

A collection of several hundred varieties of shells, presented by Mrs. S. M. Quaw of Wausau, and others.

About fifteen hundred specimens of rocks, minerals and fossils.

A considerable collection of Indian relics.

A number of mounted vertebrates.

About fifty plaques of mounted insects, showing habits and life histories.

These collections are used for class room illustration as well as for display. It is the purpose to add to the museum material each year as rapidly as possible. Either gifts or loans of valuable collections will be appreciated.

### **Library.**

Voorhees Library of Carroll College is supported by an income from the sum of twenty thousand dollars given for the endowment of the library by Mr. and Mrs. Ralph Voorhees of New Jersey, and by special appropriations. The books are carefully selected with special reference to the needs of the several departments. They are catalogued and arranged according to the Dewey system of classification. The collection includes over seven hundred bound volumes of leading periodicals which are of value in reference work through the aid of

"Poole's Index" and "Reader's Guide to Periodical Literature." These files will be completed as soon as possible. The library is well supplied with standard works of reference. Reserve shelves are provided on which are placed books for special readings assigned by the various professors.

The reading-room is a large well lighted room, tastefully decorated, and furnished in mission style. Reading tables are abundantly supplied with daily and weekly papers, current magazines, literary reviews, and scientific journals.

The library is open for reading and study from 9 A. M. to 5 P. M. on recitation days and from 9 to 12 A. M. on Saturdays. Students have free access to the shelves and are permitted to draw books by complying with customary library restrictions. In the preparation of orations and debates the facilities of our library may be supplemented by the very complete public library of Milwaukee and the Carnegie Library of Waukesha to which our students have access.

The constant enlargement of Voorhees Library is assured through the sum of money available annually for the purchase of books. It is the aim of the management to make the library one of the strongest and most valuable features of the institution.

### **Elizabeth Voorhees Dormitory for Women.**

This new building is the gift of Mr. and Mrs. Ralph Voorhees, and, at the request of her husband is named in honor of Mrs. Voorhees. It is a model of beauty and architectural skill. It was planned after a careful study of the most modern dormitories elsewhere and in comfort and convenience can not be surpassed. Like the other new buildings it is of the famous Waukesha limestone. Each floor has spacious halls and is amply supplied with lavatory facilities, and the entire building is heated by steam and lighted by electricity. It is thoroughly up-to-date in all its details, with the appointments of a cultured home. The building has accommodations for eighty girls. Most of the rooms are intended for a single occupant, but some of larger size are designed for two people, and there are a few suites consisting of parlor and two bed-rooms.

The dining room is large and cheery, and will accommodate





ELIZABETH VORHEES DORMITORY.





one hundred and sixty persons. It is practically a college commons, many of the young men taking their meals there, a separate entrance and waiting-room being provided. On the first floor of the dormitory is a spacious reception room with parlor adjoining, and suites of apartments for the dean and matron.

The domestic department is superintended by a competent, experienced matron. The dean of women presides over the social life and is responsible for the physical and moral welfare of the young women in the home. The dean and the matron are both cultured Christian women who have had long experience in dealing with girls and who respond quickly to all their needs. Everything is done to surround the student with helpful, stimulating influences. There is no unnecessary or annoying surveillance; only such restraints are imposed as are needed to give the atmosphere of a well ordered home, and to help the young women to exercise self-control and to develop well balanced Christian characters.

#### **Voorhees Cottage.**

Voorhees Cottage, like others of the college buildings, the gift of Mr. and Mrs. Ralph Voorhees, has recently been completed. It is the residence of the President of the college and is intended as a college home, the center of the life of the college. It is at once beautiful, and convenient in all of its arrangements.

## Terms of Admission.

To enter the Freshmen Class of the college, students must have completed the course outlined for the academy, or its equivalent in other schools. Testimonials of good moral standing will be required from those who are not personally known to the authorities of the college.

### Admission by Certificate.

Graduates of accredited schools will, on presentation of a certificate signed by the principal or superintendent or other authorized officer, be given credit without examination for the work done. Blank forms of application for admission may be secured at any time by addressing the Registrar. These should be filled out and returned by September seventh.

### Admission by Examination.

Candidates for admission to the Freshman Class coming from High Schools not accredited, or having credits that are not entirely satisfactory, may have the privilege of proving themselves worthy of entrance by taking a written examination. Such examination will be appointed for Monday of registration week.

The courses outlined in the High School Manual of the State of Wisconsin represent in general the character of the work required for admission.

### Requirements for Admission.

For unconditional admission to the Freshman Class of Carroll College candidates must offer a total of 15 units selected from the following list, the required units being:

English, three units.

Mathematics, three units.

History, one unit.

Science, one unit.

Foreign Language, two units.

**English.**

- (a) Review of English Grammar. Themes: Simple narratives and descriptions. Literature: Standard classics. 1 unit.
- (b) Composition: Narratives and descriptions based upon writer's experience and observation, or upon texts read in class. Literature: English classics. 1 unit.
- (c) Rhetoric: Study of principles of composition. Literature: English classics. 1 unit.
- (d) Rhetoric: Study of kinds of composition. Themes. Literature: History of English and American literature. Classics. 1 unit.

**Greek.**

- (a) Gleason's Greek Primer; Xenophon's *Anabasis*, Book I, chapters 1-5. 1 unit.
- (b) Xenophon's *Anabasis* to the end of Book IV; Homer's *Iliad*, Books I-III; Prose Composition. 1 unit.

**German.**

- (a) Thomas' *Practical German Grammar*, Part I; Lange's *A New Method with German*; or equivalent texts. 1 unit.
- (b) Bernhardt's German Composition; Freytag's *Die Journalisten*; Goethe's *Egmont* or Schiller's *Wilhelm Tell*; sight reading of easy fiction. 1 unit.

**French.**

- (a) Ability to read French correctly, to put simple English sentences into French, and thorough familiarity with the essentials of grammar. 1 unit.
- (b) Ability to read at sight modern French of average difficulty, chosen from nineteenth century literature. This should cover about one thousand pages. 1 unit.

**Latin.**

- (a) Elementary Latin, inflections and constructions. Translations and elementary prose. Outline of Roman History. 1 unit.

- (b) Latin Grammar. Caesar's *Commentaries*, four books.  
Latin Prose, twenty lessons. 1 unit.
- (c) Cicero, five orations and selected letters. Latin Prose  
completed. 1 unit.
- (d) Vergil's *Aeneid*, six books; Mythology. 1 unit.

### Mathematics.

- (a) Algebra, through simple quadratic equations. Special  
attention should be given to the use of symbols of  
grouping, factoring, fractions, simple linear equations  
and systems of equations with careful analysis of easy  
problems solved by them, the solution of the quadratic  
equations and problems involving them, and such  
theorems in surds and imaginaries as are necessary in  
the treatment of the quadratic. 1 unit.
- (b) Plane Geometry as given in Wentworth or an equiva-  
lent text, with original problems. 1 unit.
- (c) Solid Geometry, including spherical, with easy original  
problems.  $\frac{1}{2}$  unit.
- (d) Algebra. Review of the work of the first year with  
advanced work in ratio, proportion and variation, the  
progressions, binomial theorem, the graph and logar-  
ithms.  $\frac{1}{2}$  unit.

### Science.

- (a) Physics. One year's work in elementary physics, such  
as is covered by the standard elementary text-books.  
At least one-half of the work should consist of labora-  
tory exercises. The laboratory note book, approved by  
the instructor under whom the work was done, should  
be presented by candidates for admission. 1 unit.
- (b) Chemistry. General Chemistry, recitations and labora-  
tory work throughout the year. The ground covered  
should be that of the best chemistry text-books, such as  
Remsen's Briefer Course. The laboratory note book,  
approved by the instructor under whom the work was  
done, should be presented. 1 unit.
- (c) Zoology. One year's study of animal structures, habits,  
and general life history will be accepted, provided that

laboratory practice and field work have formed part of the course. Laboratory drawing books must be presented. 1 unit.

- (b) Botany. One year's work in structural and systematic botany. Laboratory practice and field work must form an important part of the course. At least 100 hours should be given to laboratory work, besides field work.

1 unit.

- (e) Physiography. One year's work. The recitation work should be supplemented with the making and study of maps, and with field work. Tarr's *Elementary Physical Geography* or an equivalent text is suggested. A portion of the course, from one-fourth to one-half, may include Commercial Geography.

1 unit.

(c), (d) and (e) may be presented in half units.

### History.

- (a) Ancient History to the year 800 A. D., with special reference to Greek and Roman History. 1 unit.
- (b) Mediaeval and Modern History from 800 A. D. to the present time. 1 unit.
- (c) A general course in American History or English and American History. 1 unit.
- (d) American History and Civics. 1 unit.

### Admission to Advanced Standing.

Students presenting a certificate of honorable dismissal from other colleges and a definite statement of the amount of work done and the credit received for it may be admitted to advanced standing; but the amount of credit given for the work will depend upon the ground covered and the time spent, and is subject to the judgment of the instructors in the several departments. No college credit will be given for work done in secondary schools except on examination.

### Relation to the University of Wisconsin.

An agreement has been entered into with the University of Wisconsin whereby both institutions have the same entrance requirements and the same list of accredited schools. Students

who change from one institution to the other will be given the rank of Sophomores or Juniors, if the change is made at the end of the first or second year of their work. It is not advisable for students to make a change at the end of the Junior year, but where such cases occur they will be dealt with on their individual merits. Students who include in their full course at Carroll our pre-engineering group of studies can enter the engineering department of the University of Wisconsin and complete a technical course in two years. Those who enter before graduation will be given the same credits as students who transfer from the College of Letters and Science of the University to its engineering department.

### **Admission to Partial Courses.**

Those who are not candidates for a degree may, without examination, enter any class for which they may be found fitted, and thus pursue a partial course. If at any time such students should become candidates for a degree it will be necessary for them to satisfy the entrance requirements.

Students entering college with conditions in preparatory work must first arrange to remove such conditions. While removing conditions students may take such college work as they may be able to carry, but to be considered in regular college standing they must take at least eleven hours of college work.

## **Student Advisers.**

Upon his entrance to college each student will be assigned to a member of the faculty who will act as his adviser until he selects his major study. As soon as the student chooses his major subject, which must be at the beginning of the Sophomore or Junior year, the head of the department in which he is to do his major work will be appointed as his adviser for the remainder of his course.

The student adviser will act in an advisory capacity with the student in the selection of courses of study for each semester, as well as in outlining the work of the student for the college course. He will keep a complete record of the student's



work in all departments. He may be consulted by the student in reference to anything connected with any of the varied interests of a college student's life. No study should be discontinued until written permission signed by the student adviser and the Dean of the college has been received. This written statement must be presented to the instructor in charge of the work. The adviser will transmit to the faculty any request of the student concerning his work that requires a vote of the faculty. All such requests should be made in writing.

## Registration.

Tuesday of the opening week of the college year is registration day. By special arrangement, registration may be made before that day. For the second semester students must register during the last week of the first semester.

On registration day the student will present himself to the Dean and Registrar of the college, who will receive his certificate or other credentials from the school last attended. The student will receive from the Dean a registration card which must be presented, together with the tuition for the semester or year, to the Acting Treasurer of the college. The receipted registration card should then be presented to the member of the faculty assigned by the Dean as the student's adviser. The student shall select his courses for the semester in consultation with the adviser. The adviser will transmit class cards to the instructors under whom the student is to work. No assignment to classes will be made until the registration card has been receipted by the Acting Treasurer of the college. No student will be admitted to any class until his class card shall have been received by the instructor in charge of the class. The student's election card containing a list of the courses to be pursued during the semester will be transmitted to the Registrar by the adviser.

Failure to register at the appointed time will subject the delinquent to a special registration fee of \$1.

## Requirements for the Degree of Bachelor of Arts.

The college year is divided into two semesters. One hour of recitation or lecture per week, for one semester, is designated a unit hour. Two hours of laboratory work or two hours of prescribed physical exercise in the gymnasium are credited as one unit hour. Students are expected to take thirty-two unit hours per year during the Freshman and Sophomore years, two of which may be class work in physical exercise. For the degree of Bachelor of Arts a total of 124 unit hours is required, four of which may be prescribed physical exercise.

No student will be permitted during one semester to receive a credit toward graduation of more than sixteen unit hours in regular studies except by permission of the faculty, obtained in advance. Students are not allowed to receive credit for more than eighteen unit hours in any one semester.

No student shall receive a Bachelor's degree until he shall have been in residence at least one year.

The 124 unit hours of recitation, lecture and laboratory work required for graduation include:

- (1) Courses required of all candidates for a degree;
- (2) Courses in the major subject; and
- (3) Elective courses.

### 1 Required Studies.

- (a) English, six unit hours to be taken in the first year.
- (b) Language, sixteen unit hours for those who offer at least three years of preparation, and twenty-four unit hours for those who offer only two years of preparation.
- (c) Bible, eight unit hours.
- (d) Philosophy, six unit hours.
- (e) Mathematics, six unit hours.
- (f) History, eight hours.
- (g) Natural Science, ten hours, to consist of a one-year course in either Biology, Chemistry or Physics.

### 2 Major Study and Thesis.

*Major study:* At the beginning of the Sophomore or Junior year each student shall select as his major subject the work of

some one department in the college. This department will determine the manner in which the work of the major shall be completed; the work required in the major (including thesis and required work) shall not be less than twenty unit hours, nor more than forty unit hours, the credit for the thesis being four hours. Any one of the following subjects may be chosen as a major: Philosophy; History; English; Biology; Mathematics; German; Latin; Chemistry; Physics.

*Thesis:* Candidates for a baccalaureate degree may be required to present a graduating thesis, the subject of which must be approved by the head of the department in which the candidate is doing the work represented by the thesis. The thesis must represent some phase of the student's work in his major study, and must have the character of a scholarly dissertation on the subject. The thesis must be typewritten and bound according to specifications furnished by the Librarian of the college. It must be deposited in the College Library by June 1st. Before the thesis is accepted, it must be approved by the head of the department under whom the work has been done. When accepted, the thesis becomes the property of the college.

### 3 Electives.

All work not included under 1 and 2 is elective, but credit toward graduation shall not be given in one department for more than forty unit hours, including required work, major and electives. Not more than seventy hours credit may be received in the subjects included in any one of the following groups:

1	2	3	4
English	Biology	History	Psychology
German	Geology	Political	Education
Latin	Chemistry	Science	Ethics
French	Mineralogy	Political	Philosophy
Greek	Physiology	Economy	Logic
	Physics	Sociology	

Any course dropped without faculty consent obtained in advance shall be counted a failure in that course. When a student has failed or has been conditioned in a subject the work should be completed at as early a date as possible, and such work must take precedence over elective or advanced

work. All failures and conditions must be made up before a degree will be granted.

### Studies of the Freshman Year.

At the beginning of the Freshman year each student shall elect, in consultation with the student adviser, one of the following groups of studies for the year's work:

I	II	III
English 3 Mathematics 4 German 4 History 4 Bible 1	English 3 Mathematics 3 Latin 5 History 4 Bible 1	English 3 Mathematics 3 Latin 4 Greek 5 Bible 1
IV	V	VI
English 3 Mathematics 3 Latin 5 German 4 Bible 1	English 3 Mathematics 3 German 4 Chemistry 5 Bible 1	English 3 Mathematics 3 German 4 Biology 5 Bible 1

The figures following the names of the subjects indicate the number of unit hours for each semester.

### The Sophomore, Junior, and Senior Years.

Each student who chooses his major subject at the beginning of the Sophomore year shall outline at that time, in consultation with the head of the department in which he selects his major work, his course of study for the Sophomore, Junior, and Senior years. A copy of the course of study shall be retained by the student adviser. The course may be changed at any time by the consent of the student adviser.

Students who do not choose their major study at the beginning of the Sophomore year will retain the student advisers of the Freshman year in consultation with whom they will select the work of the Sophomore year. At the beginning of the Junior year the work for the remainder of the course shall be outlined by the student and the head of the department in which the major work is chosen.

Suggested groups of studies are outlined after the description of the courses in the various departments in which major work is offered.

## Requirements for the Degree of Bachelor of Science (in Chemistry).

The requirements for admission to the Course in Chemistry are the same as they are for the Courses leading to the degree of Bachelor of Arts, with the exception that elementary Physics is required for entrance.

For graduation 136 unit hours of lecture, recitation, and laboratory work are required.

Four units of prescribed work in physical culture may be offered toward graduation.

The required subjects are :

Chemistry, including chemical thesis, forty-eight unit hours.

Physics, ten unit hours.

Mathematics, including Mechanics, sixteen unit hours.

Mineralogy, six unit hours.

Geology, five unit hours.

English, six unit hours.

German, twelve unit hours.

Mechanical Drawing, four unit hours.

The Bible, eight unit hours.

No student may receive more than fifty-eight unit hours credit in Chemistry toward graduation.

A synopsis of the Course in Chemistry may be found in the statement of the Course in Chemistry.

## Preparation for Professional Courses.

By a careful combination of the major system and required studies, Carroll College aims to secure two results for her students: To give that breadth of culture, extent of information, and training of the mental powers needed as a basis for all lines of activity; to provide for each student the opportunity of becoming well acquainted with some field of knowledge that will specially prepare him for any line of professional study that he may intend to take up. To this end a number of suggested groups of studies have been outlined and placed after the descriptions of courses offered by the various departments.

**Teaching.**

The department of Philosophy and Education offers a number of courses which are especially adapted to the needs of those who intend to enter the profession of teaching. The student that expects to obtain a thorough preparation for teaching any particular subject should choose that as his major study. Special teachers' training courses are offered by the various departments of instruction. These courses, together with the professional courses offered by the department of Education, form an important part of the groups of studies suggested for those who desire to prepare for teaching. For these groups the student is referred to the description of courses in the various departments.

The school laws of Wisconsin provide that graduates of colleges whose courses of study are fully and fairly equivalent to corresponding courses in the University of Wisconsin may receive an unlimited state certificate upon recommendation of the State Board of Examiners. Acting under this provision the State Board has granted state licenses to the graduates of Carroll College. The teachers' course offered here is carefully planned to include all branches of study required by the state.

**Medicine.**

The departments of Biology and Chemistry offer a number of courses which will be of great value to the student who enters a medical college. The laboratories of these departments are well equipped and the courses offered are designed to give the student a working knowledge of these sciences. Arrangements are possible which will enable the student to shorten the total number of years required to obtain the degrees of Bachelor of Arts and Doctor of Medicine. Groups of studies which are suited to the needs of the pre-medical students are described in connection with the courses in Biology and Chemistry.

**Law.**

Students who expect to study Law should do their major work in the department of History and Political Economy. The newly established department of Sociology also offers



courses which will be of especial value to the student of law. For suggested groups the student who contemplates the study of Law is referred to the statement of the department of History and Political Economy.

### **Theology.**

Students who expect to enter the ministry should have, in addition to a knowledge of the Bible, the Classics, Moral Philosophy, Psychology and History, an intelligent understanding of the laws of God as manifested in the material universe. The only way that a thorough acquaintance with nature and her laws can be obtained is by a study of the fundamental sciences. Courses in theology do not form a part of the college curriculum, but work especially adapted to the prospective student for the ministry will be offered by the department of Sociology. Groups of studies adapted to individual needs will be arranged by the head of the department under whom the student chooses to do his major work.

### **Engineering.**

Students who expect to study engineering should do their major work in mathematics and physics or pursue the Course in Chemistry. The courses offered in the college include the mathematics, the fundamental sciences, and the modern languages, which form an important part of all engineering courses. More technical courses, especially adapted to the engineering student, are offered in mechanical drawing, descriptive geometry, surveying, industrial chemistry, bacteriology, mineralogy, mechanics and electrical measurements.

A young man can acquire by a course in Carroll College much information that is fundamental to all engineering courses, and so materially shorten his professional course, at the same time securing that culture, general information, and mental discipline which are so essential to men who are to be agents in the betterment of society, no matter in what line of work they may engage.

Many youths incline toward one or another of the technical callings, but do not wish to decide finally and at once. They may pursue a course of study which will serve as preparation



for the preferred profession, but which will also count toward a different goal if their plans should change as they grow older and become better informed.

## Course in Chemistry.

The great demand for technical instruction in the college, together with the large opportunities open to the trained chemist in the manufacturing industries, has led to the establishment of a Course in Chemistry. It is the aim of the course to fit students for practical work as chemists in manufacturing establishments or technical laboratories. Executive positions in chemical manufactories are frequently filled by chemists who show marked ability for that kind of work. Graduates are fitted to enter upon graduate work in chemistry, to teach chemistry, or to take paid positions as chemists immediately upon graduation.

### Suggested Outline of Course in Chemistry.

#### FIRST SEMESTER.

Freshman.	Sophomore.	Junior.	Senior.	
Chemistry	5 Chemistry	7 Chemistry	5 Chemistry	5
Mathematics	5 Physics	5 Mathematics	3 Bacteriology	
English	3 German	2 Mineralogy	3 or Mechanics	5
German	4 Bible	1 French	4 Chemical	
Bible	1 Mechanical	Bible	1 Thesis	2
	Drawing	2 Elective	Bible	1
			Elective	

#### SECOND SEMESTER.

Freshman.	Sophomore.	Junior.	Senior.	
Chemistry	5 Chemistry	7 Chemistry	5 Chemistry	5
Mathematics	5 Physics	5 Mathematics	3 Chemical	
English	3 German	2 French	4 Thesis	2
German	4 Bible	1 Bible	1 Bible	1
Bible	1 Mechanical	Mineralogy	3 Geology	5
	Drawing	2 Elective	Elective	

## Departments of Instruction.

The work of the college is organized under the following Departments of Instruction :

BIBLICAL LITERATURE.

BIOLOGY.

CHEMISTRY.

ENGLISH.

GEOLOGY.

GREEK.

HISTORY AND ECONOMICS.

LATIN.

MATHEMATICS.

MODERN LANGUAGES.

ORATORY.

PHILOSOPHY AND EDUCATION.

PHYSICS.

SOCIOLOGY.

### BIBLICAL LITERATURE.

PRESIDENT CARRIER; MRS. CARRIER.

The English Bible is made a text-book in the college, and the aim of this department is to familiarize the students with the Scriptures, giving them a good general knowledge of the history and teachings of the Bible. The courses are so arranged that in four years the whole Bible may be covered. Many portions of the Old and New Testaments are studied carefully, while those of seemingly less importance are passed over hurriedly. Students are encouraged to ask questions, and difficult problems are freely discussed with the purpose of encouraging more independent thought and a firmer faith. Thorough and careful study is required and credit given toward graduation. Bible truth, and not denominationalism is the subject of study. The American Standard Revision is the text used for class room work.

In the Academy Department the sum of ten dollars is awarded in prizes for the best essays on subjects pursued, the

assignment being made by the instructor. Any academy student may enter into this competition. The prizes are distributed as follows: First prize, four dollars; second, three dollars; third, two dollars; fourth, one dollar.

**1 a The Life of Christ.**

The life of our Lord is so studied as to help the student to a clear and intellectual conception of Jesus as He is portrayed in the Gospels. The contents of the four Gospels are carefully studied.

*First semester. One hour.*

**b Apostolic History.**

This is a study of the external and internal growth of the Christian Church as it is portrayed in the Acts of the Apostles. The Bible is used as the text-book.

*Second semester. One hour.*

**2 The Books of the Pentateuch.**

*First and second semesters. One hour.*

**3 a The Pauline Epistles.**

Four or five of the principal epistles of Paul are studied. The date, occasion, and purpose of writing are discussed.

*First semester. One hour.*

**b Catholic Epistles and Revelation.**

*Second semester. One hour.*

**4 a Historic Books of Old Testament.**

A general survey of the history of the Hebrew people from Joshua to Nehemiah.

*First semester. One hour.*

**b Old Testament Prophecy.**

Several prophetic books are taken up in detail in their chronological sequence. Particular attention is paid to the his-

toric setting of these prophecies, their vital relation to the life of those to whom they were addressed, and the elements of moral and spiritual truth which they convey.

*Second semester. One hour.*

## BIOLOGY.

PROFESSOR GODDARD.

The central purpose of the work of this department is to furnish to the student opportunity for a study of the problems of life and its development, and to enable him to understand the relation of these to important human interests. The subject of biology is regarded as a fundamental science. It furnishes in a special way the foundation for all the humanistic studies, such as psychology, pedagogy, history, economics, and sociology. All students interested in these lines are urged to take at least a year's work in biology; further study would be advantageous. This applies with special force to those who expect to take the Teacher's Course, where the biological point of view of education will be emphasized. It applies with equal emphasis to all having the ministry in view. The work of this department is in direct line with the technical subjects of medicine, agriculture and sanitation. Application to these lines will be emphasized wherever possible. With the completion of the new Rankin Hall of Science, the department has been provided with spacious and well-equipped laboratories, and with convenient class rooms fitted for demonstration and lantern illustration. (See description of laboratories, page 19. Those desiring to do major work in this department will be required to complete courses amounting to a minimum of thirty unit hours. By such students the courses should be taken as nearly as possible in the following order: 11, 12, 13, 21, 14, 15, 16, 17, 18, 19.

### 11 General Biology.

The purpose of this course is to furnish a foundation for all biological study. It is a prerequisite of most other courses of the department. It is well adapted to the needs of students who wish to get a general view of life and its problems, but

who cannot give extended study to the subject. It should be taken by all students who have teaching or the ministry in view. The work consists mainly of lectures, or recitations, and laboratory work. Field trips for the collection of material, and for the study of the natural relations of plants and animals will be planned as time and weather conditions permit. The laboratory work includes a study of a series of plant and animal types, beginning with the simpler forms and proceeding systematically to those more complex. These studies furnish the basis of the lecture and recitation work, which aim to amplify the laboratory work and include a discussion of such topics as the origin and physical basis of life, the manifestations of life as seen in the animal and plant cell, the structure and development of cells, the essentials of the life process, and the basis of evolutionary development. Such questions as variation, heredity, parasitism, symbiosis, metagenesis, and parthenogenesis are considered. The last few lectures of the year are devoted to a presentation of the theory of organic evolution. The zoological part of the work is given during the first semester, the botanical during the second. Students may begin the work at the opening of either semester. However, there are some advantages in beginning the first semester. The course is open to all college students.

*Two lectures or recitations and eight hours laboratory work per week throughout the year.*

*Lectures and laboratory work 2:10—4:00. Ten unit hours.*

## 12 Vertebrate Zoology.

This course is closely related to the zoological part of Biology 11, completing the survey of the animal kingdom begun in that course. It also furnishes a valuable preparation for the course in Human Physiology. The work consists largely of laboratory work and lectures upon the anatomy, physiology and life relations of vertebrate animals. A detailed study of the frog and of the cat will be made to illustrate anatomy and physiology. A large amount of field work will be devoted to a study of the habits and life relations of birds, frogs, toads, fishes and other common forms.

Prerequisite: Biology 11.

*Lectures M., W., Four periods, two hours each, of laboratory and field work as arranged.*

*First semester. Five unit hours.*

### 13 Plant Physiology and Ecology.

The Plant Physiology will consist of lectures and class room discussions combined with an accompanying laboratory course. The vital phenomena of the plant will be studied as to their origin and causes, and as to their significance in the life work of the plant. There will be a close correlation of these problems with some study of structure in an effort to discover how plant structures adapt themselves to the work they have to do. The agriculture side of plant study will be emphasized.

The Ecology will consist of field and laboratory work combined with lectures and discussions in the class room. The latter will be closely correlated with the physiology and will treat of the plant especially in relation to the factors of its environment, including soil, air, water, light, humidity, and temperature. The field work will be done mostly in the fall and in the spring. It will aim to acquaint the student with the common plants of the region, especially trees, shrubs, and herbaceous plants. These will be grouped into plant societies such as xerophytes, mesophytes, hydrophytes, according to the conditions for which they show adaptations. Some work will be done in taking soil samples, determining humidity, light, and temperature readings in the field, and in measuring depth of water table, depth of soil, etc. Determinations of water capacity, water content, and physical analysis of soil will be made in the laboratory. These data will be correlated with the plant societies. Each student will be expected to study a special area identifying plants and collecting ecological data as described above. Results will be embodied in a written report of the region.

Prerequisite: Biology II.

*Lecture and recitation two days a week. Laboratory and field work eight hours a week as arranged.*

*First and second semesters. Eight unit hours.*



#### 14 Human Physiology.

A popular, general course designed to meet the needs of those who cannot take extended biological work, and at the same time, to serve as an introduction to advanced courses. The work will consist of lectures and demonstrations, supplemented by some dissection, histology and microscopical work in the laboratory. Dissection of such organs as the heart, lungs, kidneys, digestive system, a study of the injected circulatory system, and a microscopical study of blood will be part of the laboratory study. The lectures will deal with anatomy, physiology and hygiene. Practical questions of food, cooking, and sanitation will be discussed. Emphasis will be placed upon the nervous system and special senses. This study will lay a good foundation for the work in psychology. The course will also be found of particular value to teachers and to those contemplating the study of medicine.

For the best results this course should be preceded by course 12.

*First semester. Five unit hours. Given in 1909-10, and on alternate years.*

#### 15 Histology.

The work in Histology will present methods of cutting, staining, imbedding and mounting plant and animal tissue for microscopic study. The study of slides thus prepared will be supplemented by an examination of slides already belonging to the department. The animal side or the plant side will be emphasized according to the needs of students. The major portion of the time will be devoted to laboratory work, with quizzes and class discussions once or twice a week.

Prerequisite: course 11 or 14; 12 is desirable.

*Second semester. Three or five unit hours.*

#### 16 Embryology.

The work in Embryology will include a study of the embryonic development of some higher plant or vertebrate animal by means of sections made at various stages. The work will be largely laboratory work, supplemented by discussions and quizzes in the class room. Special emphasis may be placed

on the botanical or the zoological side according to the needs of the students electing the work.

Prerequisite: course 11 or 14; 12 is desirable.

*Second semester. Three or five unit hours.*

### 17 Enemies and Diseases of Plants.

A study of the insects, fungi, and bacteria which attack plants. The morphology and life history of such forms will be investigated and remedies discussed. Relations to agriculture will be emphasized.

*Lectures and laboratory work with occasional field excursions. First semester. Three unit hours.*

### 18 Teachers' Course.

Field work and class room discussion designed for those who expect to teach botany or zoology in the high school. The field work will give a general survey of the plant and animal life of the region, including classification, habits and life relations. The class work will present a discussion of the pedagogical content of biology and the best method of teaching the subject in the high school.

Discussion of text-books, reference books, and current literature of the subject, and the planning of a laboratory.

Prerequisite: courses 11, 12, 13.

*Second semester. Two unit hours.*

### 19 Biological Methods and Technique.

Methods of collecting and preserving material for laboratory study and for museum purposes. Practice in preparing slides and other material for microscopic study, and in making photographs and lantern slides for class room illustration. The use of the stereopticon, microscopical attachment, and projection apparatus.

*Second semester. Two unit hours.*

Courses 18 and 19 may be combined in one as a three or four hour course, or may be taken separately.

## 20 Bacteriology.

A course intended to give training in bacteriological methods, and opportunity for the study of the nature, life histories and life relations of common bacteria. Experiments will be performed to show physiological characteristics, and bacteriological examination will be made of air, water and milk. The relation of bacteria to disease and to decay, fermentation, souring of milk, ripening of butter, will be discussed. It will be a laboratory course, supplemented by lectures and quizzes.

*First semester. Five unit hours. To be given in 1909-10, and on alternate years.*

## 21 Organic Evolution.

A lecture course outlining the theory of organic evolution and presenting some of the lines of evidence upon which it is based. The course requires no previous biological work, although the theory will be much more intelligible to students who have had courses 11 and 12 in biology and course 11 in geology. Illustrated by stereopticon slides.

*Lectures, Tu., F. First or second semester. Two unit hours.*

### Suggested Groups With Major in Biology.

1		2		3	
Biology	30	Biology	30	Biology	30
Geology	6	Chemistry	20	Physics	10
Mathematics	6	Mathematics	6	Mathematics	6
English	6	English	6	English	6
Philosophy	6	Philosophy	6	Philosophy	15
German	16	German	16	German	16
French	8	French	8	French	8
Chemistry	15	Bible	8	Chemistry	10
Physics	10	History	8	Bible	8
Bible	8	Physics	10	History	8
History	8	Electives	6	Electives	7
Electives	5				
	<hr/> 124		<hr/> 124		<hr/> 124

Students who desire to pursue special lines of agriculture will find that group 1 is well adapted to their needs.

Group 2 is planned to meet the wants of pre-medical students, and group 3 for prospective teachers.

## CHEMISTRY.

PROFESSOR HUTCHINS.

The courses in Chemistry are designed to meet the needs of three classes of students: those who wish to gain an elementary knowledge of the subject as a part of a general culture course; those who intend to study medicine or to pursue some technical application of science; those who intend to take up Chemistry as a profession and so desire a broad foundation for advanced study. The subject matter of Chemistry is of fundamental importance in everyday life and consequently forms an important part of a liberal education. For students intending to study medicine or engineering, a good knowledge of Chemistry is necessary. Such students may well do major work in Chemistry. Satisfactory completion of the courses outlined below will enable the graduate to enter universities or technical schools as a candidate for advanced degrees; to take up remunerative work as a technical or analytical chemist; or to engage in teaching Chemistry. The requirements for a major in Chemistry are, in addition to the thesis, 30 unit hours as a minimum. Courses 11, 12 and 13 are required of all who do major work in Chemistry. Course 11 should be taken in the Freshman year. Although there are no prerequisites for course 11 other than those for admission to the college, it is earnestly advised that those who elect Chemistry present one year of elementary Physics for entrance to the College.

In the courses in Chemistry especial emphasis will be laid upon the experimental side of the science. Students will be encouraged to learn facts by experiment and so to become investigators from the very beginning.

**11 General Chemistry.**

The course consists of experimental lectures together with recitations and laboratory work on the chemical elements, their compounds, and the laws underlying chemical action. *First semester:* A systematic study of the history, occurrence, preparation, properties and compounds of the non-metallic elements. The fundamental principles, laws, and theories of Chemistry are discussed at length. Especial emphasis is laid upon chem-

ical notation, nomenclature, and terminology. In the laboratory, quantitative relations are emphasized. *Second semester:* A continuation of the work of the first semester. Tests for the common acids; the occurrence, extraction, compounds, tests and separations of the metals; classification of the elements according to the periodic law; preparation of pure salts. Accuracy, neatness and honesty in the laboratory work will be insisted upon.

*Two lectures, two recitations, and six hours laboratory work throughout the year. Ten unit hours. M., Tu., Wed. and Th., 11:10. Laboratory, Tu., Wed. and Th., 2:10—4.*

## 12 Qualitative Analysis.

A laboratory course in the detection and separation of inorganic substances. The reactions of the common metals and acids will be studied. Especial attention will be given in the recitations and lectures to the principles involved in the laboratory work. The theories of solution, precipitation, reduction, oxidation, mass action and chemical equilibrium will be emphasized. One hundred unknown substances will be analyzed by each student. These substances will include salts, alloys, and minerals. The preparation of a few typical inorganic salts will be required as a part of the laboratory work. Open to students who have completed course 11 or its equivalent.

*Two recitations or lectures and ten hours laboratory work.*

*Th., 8. Laboratory, M. Tu., Wed., 8—9:50; Sat., 8—12.*

*First semester. Five unit hours.*

## 13 Elementary Quantitative Analysis.

A laboratory course involving the general methods of Gravimetric and Volumetric Analysis and the preparation of pure salts. Each student will determine gravimetrically a number of typical elements in pure salts, alloys and minerals. The latter part of the course will be devoted to Volumetric Analysis. A study of acidimetry and alkalimetry, as well as the oxidation, reduction, and precipitation methods of Volumetric Analysis will be made. The determinations are carefully selected and are designed to give the student as wide a range

as possible of the typical methods of quantitative manipulation.

Prerequisite: course 12.

*Two recitations or lectures and twelve hours laboratory work per week. Second semester. Five unit hours. Hours to be the same as those of course 12.*

#### 14 Quantitative Analysis.

This course is intended to give a more comprehensive knowledge of Quantitative Analysis than can be obtained in an elementary course. The work will consist of the analysis of alloys, minerals, rocks and technical products. The laboratory work will be varied to meet the needs of individual students.

Prerequisite: course 13.

*Ten hours laboratory work and two lectures per week. M., Tu., Wed., Th., 8—9:50; Sat., 8—12.*

*First semester. Five unit hours. To be given in 1909-10 and alternate years.*

#### 15 Industrial Chemistry.

Sanitary and mineral analysis of water; gas analysis; food analysis; analysis of soaps, oils, fuels, cements and other technical products. The laboratory work will be varied to meet individual needs. This course is intended to follow course 14, the two making a full year's work in advanced Quantitative Analysis. They are intended primarily for those who intend to follow Chemistry as a profession.

Prerequisite: course 13.

*Ten hours laboratory work and two lectures or recitations. M., Tu., Wed., Th., 8—9:50; Sat., 8—12.*

*Second semester. Five unit hours. To be given in 1909-10, and alternate years.*

#### 16 Organic Chemistry.

Systematic study of the aliphatic and aromatic compounds of carbon. Recitations and lectures with regular written reviews. Laboratory work in preparing representative compounds of the important series of organic compounds and their identification. Open to students who have completed courses 12 and 13.



*Two lectures, two recitations and six hours laboratory work.*

*First semester. Five unit hours. Given in 1908-09, and alternate years.*

### **17 Theoretical and Physical Chemistry.**

Lectures, recitations, laboratory work and collateral reading. The lectures will give an elementary but systematic view of the subject of Physical Chemistry. The following subjects will be studied in the class room and laboratory: atomic and molecular weight determination, the periodic law, chemical dynamics, speed of reaction and mass relations, specific gravity determinations, melting and boiling points, solubility, Faraday's law, gas laws, electrical conductivity, phase rule, specific heat, calorimetry, spectrum analysis, and photo-chemistry. Prerequisites: courses 12, 13, and 16, and elementary Physics.

*Two lectures, two recitations and six hours laboratory work.*

*Second semester. Five unit hours. Given in 1908-09, and alternate years.*

### **18 Chemical Preparations and Research Work.**

Students making Chemistry their major study may do work leading to a baccalaureate thesis.

*Credit according to the amount and quality of work done. Throughout the year at hours to be arranged.*

### **19 Teachers' Course.**

This course consists of laboratory work, conferences, and reference work upon assigned topics. Credit will be given according to the amount of work done. This course will be pursued in connection with course 17, Department of Philosophy and Education.

Prerequisites: courses 11, 12, and 13, and elementary Physics.

*Throughout the year at hours to be arranged.*

### **20 Engineering Chemistry and Metallurgy.**

Lectures and recitations: the chemical industries; raw materials; machinery and appliances; methods of manufacture;

products, such as glass, porcelain, caustic soda, sodium carbonate, sulphur dioxide, sulphuric acid, the cyanides, gas and coke, mineral and vegetable oils, alcohol, pigments, dyes, cement, fertilizers, paper, the metals. A survey of the applications of chemistry to manufacturing industries. During the course the students will make a number of trips of inspection to important manufacturing plants in Milwaukee. These trips are personally conducted by the head of the department and form an important part of the work of the course.

Prerequisites: courses 11, 12, and 13. During the year 1907-08 a large number of students carried this course simultaneously with courses 11 and 12. This plan is recommended for chemical students. The work of course 15 complements that of course 20. In the two courses it is intended that the student shall obtain a working knowledge of some branches of industrial chemistry.

*Two lectures and one recitation. Tu. and Th. at 9:50. First and second semesters. Four unit hours. To be given in 1909-10.*

## **21 Seminar. History of Chemistry.**

This work will consist of reports on assigned topics of general interest to chemical students. The subjects discussed will be varied from year to year. During the year 1909-10 a general survey of the important chapters in the history of chemistry will be systematically pursued. The course will be open to Juniors and Seniors.

*First and second semesters. Two unit hours.*

## **22 Food Analysis.**

Laboratory instruction in the analysis of foods with reference to their nutritive value and adulteration. The subject of food analysis has become of very great interest and importance to the chemist because of recent state and national legislation. An opportunity will be afforded to the student of becoming familiar with the subject as it relates to the work of the chemist.

**23 Advanced Inorganic Chemistry.**

A course of lectures on the elements and their compounds from the standpoint of the periodic law.

*First and second semesters. Four unit hours.*

**24 Toxicology. Urine Analysis.**

A laboratory course intended primarily for medical students. Credit according to the amount of work done.

**Suggested Groups With Major in Chemistry.**

1		2		3	
Chemistry	30	Chemistry	35	Chemistry	30
Biology	10	Physics	14	Mathematics	14
Histology	5	Education and		Physics	10
Bacteriology	5	Philosophy	10	Philosophy	10
Physics	10	Physiology	5	Political	
Mathematics	8	Mathematics	6	Economy	8
English	6	English	6	History	8
German	16	German	16	English	6
French	8	French	8	German	16
Thesis	4	Bible	8	French	8
Bible	8	History	8	Bible	8
Philosophy	6	Thesis	4	Thesis	4
History	8	Electives	4	Electives	2
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	124		124		124

Students who expect to pursue Chemistry as a profession should take the Course in Chemistry. This is well adapted to the needs of the sanitary, mining, or chemical engineer. Courses 11, 12, 13, 14, 15, 16, 17, 18, and 20 are required of all students. Others may be elected. A detailed outline of the Course in Chemistry will be found on page 36.

Group 1 will meet the needs of those who expect to study Medicine. In order to secure the maximum value from a course in Medicine the student should have a good knowledge of analytical and organic chemistry before he enters upon such a course. Courses 11, 12, 13, 16, and 24 are intended to meet the needs of such students.

Group 2 is especially adapted to students who expect to teach Chemistry, or Chemistry and Physics.

The groups are subject to alteration to meet individual needs.

## ENGLISH.

PROFESSOR STARR.

In the courses offered by the department of English three objects are contemplated:

(1) A knowledge of the origin and development of the English language.

(2) An acquaintance with English and American literature.

(3) Proficiency in expression.

(1) The language is treated as a vital growth, a living organism, presenting successive stages of development corresponding to the successive stages in the development of the race. (2) The literature is treated as the reflection of the life of the nation, the artistic expression of the intellectual and spiritual forces that have entered into the formation of the national character and institutions. (3) From the study of masterpieces of prose and poetry it is sought to determine correct principles of expression and style, and, by the application of these, to develop the power of clear and effective expression. In general, the study of literature forms a part of the courses in composition, and practice in composition, a part of the courses in literature. Of the courses offered below, 11 and 13 are fundamental, and are intended to lay a foundation for the more advanced elective courses. In any year the particular courses to be given will be determined by the needs of the students desiring to elect work in the department.

**11 Rhetoric and Composition.**

A study of the forms of discourse; the preparation and criticism of written compositions; and prescribed readings in the masterpieces of English and American prose, as embodying principles of effective expression. The object in all the work is to develop the power of clear and correct expression, to cultivate the sense of literary form, and to present just critical standards. In addition, some time is given to the history of the English language; to the study of words, their etymologies and meanings; and to the subject of bibliography.

*Required of Freshmen. First and second semesters. Three hours.*

## 12 Advanced Rhetoric and Composition.

A study of the forms of discourse. This course is designed to bring the student into contact with the finer elements of style, and, in conjunction with one of the advanced courses in literature, to secure the development and application of correct standards of criticism and expression.

*First and second semesters. One hour.*

## 13 History of English Literature.

A survey of the development of the English language and of the history of English literature, with study of individual authors and representative works. Moody and Lovett's *History of English Literature*, or an equivalent text, forms the basis of the work. Collateral reading and individual reports on assigned topics are required.

*First and second semesters. Three hours.*

### 14a. Old English.

Anglo-Saxon grammar and reader. Selections from old English prose and poetry. The history of the English language, and the beginning of English culture.

*First semester. Three hours.*

### 14b. Middle English.

A continuation of Course 14a. This course is devoted to the literature of the fourteenth century, with special attention to the works of Chaucer and Langland, the metrical romances, and the beginning of the drama. It includes the reading of Langland's *Piers Plowman* and Chaucer's *Canterbury Tales*.

*Second semester. Three hours.*

## 15 American Literature.

A study of American literature, both prose and poetry, with special emphasis upon its relation to American life and thought, and to contemporary English literature. Consideration of American periodical literature, including the newspaper, will form a part of this course.

*First and second semesters. Two or three hours.*

**16 English and American Essayists.**

A consideration of the development of the Essay as a definite literary form, with reading of the works of nineteenth century essayists. Lectures and individual reports.

*First and second semesters. Two or three hours.*

**17 English Poetry of the Nineteenth Century.**

Lectures, together with assigned readings and reports on individual topics. A study of the principles of poetics.

*First semester. Two or three hours.*

**18 The Novel.**

A survey of the development of narrative literature, with special reference to the modern novel and the short story. Extensive reading and analysis of selected works.

*Second semester. Two or three hours.*

**19 Teachers' Course.**

A study of the works required for the college entrance examinations in English. Lectures, papers and class room discussions, and practice teaching. To be taken with Education 17.

For courses in Shakespeare, see Department of Oratory and Dramatic Literature.

**Suggested Courses With Major in English.**

English	24	English	24	English	20	English	20
Dramatic		German	16	History	16	Latin or	
Literature	8	French or		Dramatic		French	16
French or		Latin	8	Literature	8	German	16
Latin	8	History	8	German	16	History	8
German	16	Philosophy	6	Mathematics	6	Mathematics	6
Philosophy	6	Mathematics	6	Philosophy	15	Philosophy	6
History	8	Chemistry	10	Science	10	Science	10
Mathematics	6	Biology	10	Bible	8	Bible	8
Science	10	Bible	8	Electives	25	Electives	34
Bible	8	Electives	28				
Electives	30						
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## GEOLOGY.

PROFESSOR GODDARD.

The object of this department is to provide opportunity for the study of earth problems. It is aimed to present the work in such a way that the study will contribute toward general culture and at the same time afford a foundation for more extended work in this line. Endeavor is also made so to shape the work that it will give training for the teaching of geography and physiography in the high school. The department has quarters in the east end of the second floor of Rankin Hall of Science, arranged conveniently for both class room and laboratory work. Illustrative material is being added to the department each year. See description of geological laboratory.

**11 General Geology.**

This is a general and fundamental course. The work will include an elementary survey of dynamic, structural, physiographic, and historical geology. Earth features will be studied as to their origin and significance. Agencies now at work upon the earth and the laws and results of their operation will be treated. Some time will be devoted to gaining an acquaintance with common rocks and minerals. The structural and historical part will deal with the origin of the earth, the structure of its crust, the character and distribution of the successive rock formations, and the life associated with these. Frequent field trips will be made to points of geological interest. In connection with these trips, collection and classification of rocks, minerals, and fossils will be required. Each student will be asked to work up the geography and geology of some special region with the aid of a topographical map and the geological atlas. A large collection of state and government publications is available for this work as well as for general illustrative purposes. This includes twelve hundred sheets of the Topographic Atlas of the United States; the folios of the Geological Atlas of the United States; the Geological Atlas of Wisconsin; the four volume work on the Geology of Wisconsin; the publications of the State Geological and Natural History Survey; numerous publications of the United States Geological Survey; and many other reports, maps, and charts.



During the latter part of the semester, effort will be made to plan a trip of several days to some point of special geological interest.

*Class work daily. Field trips after 4 o'clock and on Saturdays. Second semester. Five unit hours. Given in 1908-9, and on alternate years.*

## GREEK.

PROFESSOR FLATTERY; DR. ROGERS.

The Greek department aims to cultivate an appreciation of the value of Greek literature, along with the mastery of linguistic principles. Special emphasis is placed upon sight reading so as to enable the student to read rapidly and thereby to become familiar with the particular style of the different authors. The course is so arranged and varied that topical readings can be assigned to give an insight into the scientific and philosophic spirit that conceived and formulated most of the modern theories of matter and mind and into the ethical, social, and political conceptions by which the poets, artists, and statesmen of Greece have become the masters of a hundred generations.

### 11 Elementary Greek.

Grammar. Stress is placed upon the mastery of inflections, sentence constructions, and idiomatic usage, by constant oral drill and written exercises. Xenophon's *Anabasis*, with rapid collateral reading of the Greek Testament.

*Freshman year. First and second semesters. Five hours.*

### 12 Greek History.

A thorough study of Xenophon, Thucydides, Herodotus, with selections from Diodorus Siculus, Plutarch, Arrian, and Lucian.

*Sophomore year. First and second semesters. Four hours.*

### 13 Greek Oratory.

A study of the style, method, and matter of orations of Lysias, Isocrates, Isaeus, Demosthenes, and Aeschines, with reference to Greek courts and jurisprudence.

*Junior year. First semester. Three hours.*

### 14 Greek Poetry.

A study of Homer and Hesiod, with selections from Anacreon and Pindar and from Aeschylus, Sophocles, Euripides, and Aristophanes, with reference to poetic forms, Greek religion and dramatic conceptions.

*Junior year. Second semester. Three hours.*

### 15 Greek Science.

This course involves a careful reading of extracts from, and interpretations of, the teachings of Thales and Anaximander, of Xenophanes and Parmenides, of Heraclitus, and of Pythagoras and Democritus, with special reference to modern scientific theories.

*Senior year. First semester. Three hours.*

### 16 Greek Philosophy.

This course presents a study and discussion of the teachings of Socrates, Plato, and Aristotle, with reference to philosophic technology and modern systems of philosophy.

*Senior year. Second semester. Three hours.*

## HISTORY AND ECONOMICS.

PROFESSOR GANFIELD.

### History.

The study of history in a wide sense includes all departments of social life, political, economic, religious, and others. The state is, however, one of the most important features of social development; the study of political life is of very great value to citizens of a republic. While in the following courses, special attention will be given to the political history, the aim will be also to acquaint the student carefully with the social customs and conditions, the industrial pursuits and the re-

ligious institutions. By this method it is hoped to make the study itself of great interest and to furnish the student with a better understanding of our present civilization, because many of the customs and institutions, and even the problems, of the present time have such intimate connection with the past that they can be understood only by careful study of their origin and growth. By this method it is hoped as well that the student may be helped to a more perfect and careful interpretation of the political history itself; for every department of the life of the people is influenced by every other, and the political life and practices of any period can be understood only by noting carefully the history of that people and, as well, their social, industrial, and religious institutions and the influence of these upon their politics. The presentation of the following courses in this department has then these objects: to impress a knowledge of the subject for its own sake; to broaden the view and discipline the memory, imagination, judgment, and sympathy of the student; to discover the origin and growth of both the good and the evil in our modern civilization; so carefully to interpret the past, if possible, that lessons may be drawn from it for the present: in simple—to try to interpret and understand the present civilization in the light of history; and, finally, to give a proper equipment to such students as expect to become teachers of history. The methods of instruction varying somewhat with the different courses, include text-book work, lectures, readings, and taking of notes on assigned topics, preparation of theses and essays, map work, and use of original sources.

### 11 Constitutional, Political, and Social History of England.

This course will be divided into groups of subjects on the basis of the contents of Terry's *History of England*.

a—Teutonic England—The Era of National Foundation.

b—Feudal England—The Era of National Organization.

c—National England—The Era of National Awakening.

(a) The Social Awakening.

(b) The Religious Reformation.

(c) The Political Revolution.

d—Imperial England—The Era of National Expansion.

Special consideration will be given to such subjects as the following:

The Growth of the Parliamentary Constitution and the Rise of Cabinet Government.

The Struggle against Royal Despotism and the Rise of the Commons as a factor in Government.

The Influence and Character of the Renaissance and Reformation.

The Place and Power of Puritanism.

Motives and Methods of English Colonization.

Growth of Democracy and Parliamentary Reform.

Relation of England to Ireland and Home Rule.

Modern Industrial Development.

Gardiner—*Student's History of England.*

Terry—*A History of England.*

Readings and Sources.

*First semester. Four hours. Omitted in 1909-10.*

## 12 Survey of the Colonial, Constitutional, and Political History of America.

*Epochs of American History* will be used as a basis for the study, supplemented with lectures, readings, etc. Each student will be expected to do a prescribed amount of reading in reference works and to write essays and papers on selected subjects. The study will divide into two main divisions; the first down to 1789, and the second from that date to the present time.

*Second semester. Four hours. Omitted in 1909-10.*

## 13 Mediaeval and Modern Europe.

European History from the Germanic Migrations which broke up the Roman Empire in the West to the Congress of Vienna. Special attention will be given in this course to the history of Germany and France, with lectures and references sufficient to furnish the student with a knowledge of the rise and development of other countries of Europe and of their relation to the progress of civilization. The Religious Reformation and the French Revolution will receive very full consideration, while more than usual attention will be devoted to such other subjects as:

The Germanic Migrations and the Break-up of the Empire.

The Establishment of the Kingdom of the Franks.

Germanic Ideas of Law and Customs.

The Feudal System.

Extension of the Church; and Conflict between the Papacy and Empire.

Rise and Conquest of Mohammedism.

The Crusades.

The Growth of the French Monarchy.

The Napoleonic Wars.

The Decay and Fall of the Holy Roman Empire.

The Congress of Vienna.

Emerton's *Introduction to the Middle Ages*.

Robinson's *History of Western Europe*.

Fisher's *History of the Reformation*.

Gardiner's *French Revolution*.

*First and second semesters. Four hours. (Omitted in 1908-09.)*

#### 14 History of Recent Times.

This course will begin with the rearrangement of Europe by the Congress of Vienna, and will trace the influence of the Revolutionary movement and spirit on the several countries of Europe, the unification of Italy and Germany, and the development of Russia. It will involve a consideration of many interesting and perplexing questions in European life and politics, and will lead to a discovery of the conditions in the home countries whence come many immigrants to America. The course will close with a series of lectures and studies on "Europe and the World of Today."

European History from 1815 to the present day.

Seignobos' *Political History of Europe since 1814*.

Fyffe's *History of Modern Europe*, and Sources.

*First and second semesters. Four hours.*

#### 15 History of Ancient Civilization.

This course will aim to do just three things: first, to furnish a thorough preparation for teaching Ancient History in High Schools; second, to help students looking forward to

professional or public life to an understanding of the history of ancient peoples and the character of their civilization; and, finally, to aid the student of history and politics to interpret the character and contribution of the ancient nations to the general civilization of the race. The method will include: first, a survey of the history of the ancient nations; second, a study of the content and character of the ancient civilizations and of their contribution to history. In this last an effort will be made to discover and realize the significance of the Hebrew, the Grecian, and the Roman elements in European and modern civilizations.

*First and second semesters. Four hours.*

### Law and Politics.

The courses in this department have to do with states and their relations to each other; with governments, their forms and workings and institutions; and with related subjects. The work aims to cultivate breadth of view and sound thinking on governmental and political questions, to promote good citizenship, to furnish a preparation for the study of law and for the teaching of civil government, and to provide a training which shall be helpful and useful to those who may enter a business career or professional life. The courses in history are arranged as a preparation for the work in this department.

### 16 International Law.

This course will afford a careful study of the laws of war, peace, and neutrality, together with a consideration of the proposed plans of arbitration. Particular attention will be given to cases in which the United States has been directly interested, and the students will frequently be referred to such cases as are found in Scott's *Cases on International Law*. Attention will also be directed to the related subject of diplomacy and to the place and power of America in the affairs of states.

Woolsey—*International Law*.

Lawrence—*Principles of International Law*.

*One semester. Four hours. Omitted in 1909-10.*



**17 Administrative and Business Law.**

This course will consist largely of lectures, with taking of notes and reading of assigned works and references. The course does not aim to fit the student to take an examination at the bar or to be his own lawyer; but rather to furnish a fair acquaintance with those legal principles and ideas which are involved in ordinary business affairs, and thereby to furnish him with such useful information as will enable him to know when he ought to consult a lawyer in order to avoid business pitfalls. Some of the subjects considered will be the following: Contracts; Agency; Acquisition of Property and Transfer of Same; Wills; Deeds; Bankruptcy and Insolvency; Insurance; Negotiable Paper; Partnership; Stock-Companies; Corporations; Common Carriers; Domestic Relations and Wrongs.

*One semester. Four hours.*

**18 Comparative and Practical Politics.**

The class work will be based largely on Wilson's *The State*, and Bryce's *American Commonwealth*. Lectures and references will supplement these texts. The course will furnish the student a comparative study of governments and their workings with special attention to the United States, England, France, Germany and Switzerland. Some time will be given to the history of political theories and the general principles of politics. During the second semester, consideration will be especially directed to forms of local government and to municipal institutions; to political parties and their organization and power in American life; and, finally, to modern problems of politics and municipal administration.

*One semester. Four hours.*

**Political Economy.****19 General Course.**

This will consist of recitations with frequent written and oral tests, and of occasional lectures with assigned readings from standard authorities. The aim will be to give a thorough drill on the fundamental principles of the science. In addition,

the student will be expected to prepare one or more papers on such subjects as: Land and Rent, Protection and Reciprocity, Labor and Wages, Enterprise and Profits, or other subjects of equal importance.

During the last half of the year special attention will be devoted to such subjects as: Modern Industrialism, The Modern Distributive Processes, and problems arising therefrom.

*First and second semesters. Four hours. Omitted in 1909-10.*

## 20 Descriptive Political Economy.

a—Money, Bimetallism, and Banking.

b—Taxation, Transportation, and Socialism.

This course will consist of one semester of study on each of the series of subjects under "a" and "b" above.

In the series "a" the class will use:—

Scott: *Money and Banking.*

Dunbar: *The Theory and History of Banking.*

Laughlin: *History of Bimetallism in the United States.*

In the series "b" the class will use:—

Seligman: *Essays in Taxation.*

Johnson: *American Railway Transportation.*

Ely: *Socialism and Social Reform.*

The object of presenting these several subjects is to give the student a larger opportunity to study these very important and practical subjects than can be furnished in the single year allotted to the general course, and, at the same time, not to devote so much time or attention to any one subject that the student will be compelled to omit others entirely.

*First and second semesters. Four hours.*

One year of work in Politics or in Practical Sociology may be classed with the work in Economics by students seeking to do major work in this department.

## Groups With Major in History.

1	2	3	4
History 32	History 24	History 24	History 24
Philosophy 12	Sociology 16	English 16	Political Ec. 16
Mathematics 6	English 12	Mathematics 6	Sociology 8
Biology 10	Mathematics 6	Philosophy 15	English 6
Chemistry 10	Philosophy 12	Biology 10	Mathematics 6
German 16	Science 10	Chemistry 10	Philosophy 6
Latin or 16	German 16	German 16	Science 10
French 8	Latin or 8	Latin or 8	German 16
English 6	French 8	French 8	Latin or 8
Bible 8	Bible 8	Bible 8	French 8
Electives 16	Electives 12	Electives 11	Bible 8
			Electives 16
<hr/> 124	<hr/> 124	<hr/> 124	<hr/> 124

Groups 1 and 2 are especially adapted to the needs of those who contemplate the study of law.

Group 3 is designed to meet the needs of those who may desire to prepare to teach History and English in the High Schools.

## LATIN.

PROFESSOR W. L. RANKIN.

The aim of the courses in this department is to give the student a clear conception of the genius of the Latin language, an accurate knowledge of its form and structure, and the ability to read its masterpieces with intelligent appreciation. The work involves and cultivates also familiarity with the essential facts and lessons of Roman history, the characteristics of Latin literature, and the conditions prevailing in Roman public and private life. Illustrated lectures are given on Rome and the Roman people. The courses for the Freshman year are made especially strong by allowing, outside of the four hours spent in the interpretation of Latin authors, one hour a week for auxiliary work along grammatical and historical lines. These one-hour courses are also open to students from other classes.

## 11 Livy.

Selections from Books 1, 21, 22. Special points of emphasis: grammatical construction, the Roman monarchy, the rise and growth of Roman institutions, the period of the Punic wars.

*Freshman year. First semester. Four hours.*

**12 Prose Composition.**

Review of grammar, syllabus of Latin constructions, oral and written exercises in Latin composition. To accompany course 11.

*Freshman year. First semester. One hour.*

**13 Cicero and Ovid.**

*De Senectute* and *De Amicitia*. Careful tracing of all historical allusions. Outline of Roman Philosophy. Selections from *Metamorphoses* of Ovid for rapid reading.

*Freshman year. Second semester. Four hours.*

**14 Roman History and Roman Life.**

Studied in general outline by lectures and texts. To accompany course 13.

*Freshman year. Second semester. One hour.*

**15 Horace.**

Four Books of the *Odes*. *Carmen Saeculare*. Selections from the *Satires*.

*Sophomore year. First semester. Three hours.*

**16 Horace and Tacitus.**

Selections from the *Epistles* of Horace and the *Annals* of Tacitus.

*Sophomore year. Second semester. Three hours.*

**17 Roman Correspondence.**

Selected letters of Cicero and of Pliny the Younger.

*Junior year. First semester. Two hours.*

**18 Roman Comedy.**

Selected plays of Plautus and Terence.

*Junior year. Second semester. Two hours.*

**19 Roman Christian Literature.**

Octavius of Minucius Felix.

*Junior and Senior years. First semester. Two hours.*

**20 Lucretius.**

*De Natura Rerum.* Parts of Books 1 and 2.

*Junior and Senior years. Second semester. Two hours.*

**21 Latin Prose.**

Advanced Composition.

*Junior year. First semester. One hour.*

**22 Latin Literature.**

Lectures and text-book study.

*Second semester. One hour.*

**23 Teachers' Course.**

A special course will be given in preparation for the teaching of Latin, to be taken in connection with Education 17.

**Suggested Groups With Major in Latin.**

Latin	20	Latin	20	Latin	20
German	16	Greek	20	History	16
French	8	French	8	French	8
English	12	English	6	English	6
Philosophy	15	Philosophy	15	German	16
History	8	History	8	Philosophy	15
Mathematics	6	Mathematics	6	Mathematics	6
Science	10	Science	10	Science	10
Bible	8	Bible	8	Bible	8
Electives	21	Electives	21	Electives	19
	<hr/>		<hr/>		<hr/>
	124		124		124

**MATHEMATICS.**

PROFESSOR RAY; PROFESSOR DANCEY.

The following courses in Mathematics will provide material for such training and culture as may be deemed essential to every symmetrically developed mind, and will prepare the student for the various branches of science in which mathematical analysis is employed.

Students who intend to specialize in any department of applied Mathematics should not omit any branch of pure Mathematics which may be necessary to equip them properly for their chosen field.

**11 Algebra.**

Required of Freshmen. The course begins with a review of various subjects of elementary algebra with stronger requirements in matters of development than is possible in a beginning course. The more advanced work may include the progressions, ratio, proportion and variation, binomial theorem, logarithms, series, probability, graphical representation, and solution of equations. Students presenting one and a half units at entrance may have additional subjects.

*First semester. Three hours.*

**12 Trigonometry.**

Required of Freshmen. Students must have completed Plane and Solid, including Spherical, Geometry. The co-ordinates of a point and their relation to the change of angle at the point of origin are first presented; then the functions of an angle and thorough drill upon the equations involving the functions, and the application of these equations to the solution of the right triangle, with and without the use of logarithms. The development of formulas used in the solution of all triangles receives especial attention. An introduction to Spherical Trigonometry, and the solutions of spherical triangles form part of the course.

*Second semester. Three hours.*

**13 Algebra, Trigonometry and Graphical Methods.**

This course includes material, selected and co-ordinated, from Algebra, Trigonometry and Analytic Geometry, with drill in use of instruments and methods of computing. Required of Freshmen in engineering.

*First semester. Five hours.*

**14 Analytic Geometry and Trigonometry.**

Open to students who have had courses 11 and 12 or 13. Further work in Trigonometry is given, followed by Plane and Solid Analytic Geometry. Required of Freshmen in engineering.

*Second semester. Five hours.*



**15 Elementary, Differential and Integral Calculus.**

Open to students who have had course 14.

All students who wish to go beyond the elements of the physical sciences should take this course, as the modern treatment of these subjects is based largely upon the Calculus.

*First and second semesters. Three hours.*

**16 Differential Equations.**

Open to students who have had course 15. Recommended to those who wish to specialize in Mathematics or Physics.

*First semester. Three hours.*

**17 Projective Geometry.**

*Second semester. Three hours.*

**18 Descriptive Geometry.**

Problems relating to points, lines, planes, and surfaces of revolution.

*First semester. Three hours.*

**19 Mechanical Drawing.**

An introductory course, presenting projection, the use of instruments, sketching, lettering, blue printing, tinting, tracing, shop drawings, isometric projection, isometric sketching, and the more useful problems of Descriptive Geometry, followed by applications in Machine Drawing.

*First and second semesters. Five unit hours.*

**20 Elements of Surveying.**

Field practice with compass, level and transit, with platting and calculation of field work.

*Second semester. Three hours.*

**21 Mechanics.**

This course will be based on Jean's *Theoretical Mechanics* accompanied by lectures and assigned readings.

*First and second semesters. Four hours.*

## 22 Teachers' Course.

For those who are preparing to teach any branch of mathematics a special course is offered with a credit of one unit hour, this course to be taken in connection with Education 17.

### Suggested Groups With Major in Mathematics.

1		2		3	
Mathematics	20	Mathematics	20	Mathematics	20
Physics	14	History	16	Physics	14
Chemistry	15	German	16	Philosophy	15
Mineralogy	5	French	8	Chemistry	15
Geology	6	Physiology	6	Physiology	6
German	16	Biology	10	German	16
French	8	Chemistry	10	French	8
English	6	English	6	English	6
History	8	Philosophy	6	Bible	8
Philosophy	6	Bible	8	History	8
Bible	8	Electives	18	Electives	8
Electives	12				
<hr/> 124		<hr/> 124		<hr/> 124	

Group 1 may be taken as a pre-engineering group.

Groups 2 and 3 would be suitable for those who are preparing to teach.

## MINERALOGY.

PROFESSOR HUTCHINS.

The work in Mineralogy will be especially adapted to the needs of students of chemistry and engineering.

### 11 Descriptive and Determinative Mineralogy.

Crystallography, including a study of crystal forms; the measurement, calculation, and projection of crystals; the physical and chemical properties, origin, formation, decomposition, distribution, uses, and determination of the more common minerals. Laboratory practice in identifying minerals by their physical properties and by blow pipe methods. Emphasis will be given to the important relation existing between crystallography and the sciences of chemistry and physics.

*Prerequisites: Chemistry 11 and 12 and Trigonometry.*

*First semester. Five unit hours. To be given in 1908-09, and alternate years.*

## MODERN LANGUAGES.

PROFESSOR GUILD; MISS FLATTERY; DR. ROGERS.

In planning the courses for this department an effort has been made to combine classical training with a practical knowledge of German and French as living languages. The masterpieces of the two languages are critically studied in such a way as to lead the student to a clear appreciation of the literary development of the two nations, and to help him to interpret clearly the thought of their great writers, and to understand the inner life of these peoples as revealed in their literature. While giving preëminence to modern languages as aids to the broad, liberal culture of college training, an effort is made to give such a command of the languages as will be of value in practical, everyday life. It is frequently urged against the modern language courses of American colleges that, while students may be able to read the works of the great authors, their knowledge is of no service in travel, in business life, or in independent literary work. It is the object of this department to meet this criticism by giving something practical; by training not only the eye, but the ear, and above all, the tongue.

German and French are, as far as seems advisable, the language of the class room, and special attention is given to the true German idioms. Each spring a play is presented by the German Department. This year Benedix' *Versalgen* will be presented. Special courses are given for those who wish to make use of German and French in scientific research.

## German.

## 11 Freshman German.

Schiller: *Wilhelm Tell*; Goethe: *Hermann und Dorothea*; Freytag: *Die Journalisten*. Memorizing of poems and study of short plays. A thorough review of grammar carried on entirely in the German language. Composition and reproductive translations throughout the year. Harris: *German Exercises*.

One day of the week is devoted entirely to German conversation and, through outlines and complete lists of questions,

students are taught terms and forms used in home, business, and travel.

*First and second semesters. Four hours.*

## 12 College Beginning German.

For the benefit of students who enter college with no knowledge of German, a special class is formed which covers two years' work in one year and prepares for German 11. Only those who have maintained a high grade of scholarship in other subjects, and who are capable of the closest application will be admitted to this class.

*First and second semesters. Five hours.*

## 13 Sophomore German.

Keller's *Bilder aus der deutschen Literatur* with further study of authors. *Das Lied von der Glocke*, and other ballads and poems of famous authors. Goethe's *Faust, Part One*; Lessing's *Nathan der Weise*; or Schiller's *Maria Stuart*. Supplementary reading: Freytag's *Soll und Haben*; Heine's *Harzreise*; Scheffel's *Ekkehard*.

During the year the same practical work is continued as in course 11. Jagemann's *German Prose Composition* is used for translation into German. Reproductive work and independent themes are required in this course.

*First and second semesters. Four hours.*

## 14 Rapid Reading and Conversation.

For students wishing to obtain fluency in conversation and reading, a short course is offered, to follow German 13. The assigned texts are: Eichendorf, *Aus dem Leben eines Taugenichts*. Schiller, *Jungfrau von Orleans*. Lagerlöff, *Eine Guts-geschichte*. Niese, *Licht und Schatten*.

## 15 Lessing.

*Nathan der Weise. Emilia Galotti*, and selections from *Laocoon*. A study of Lessing as a critic and of his influence upon the development of a national drama. An elective course for those who have had courses 11 and 13.

*First semester. Three hours. Given in alternate years with Course 17.*

**16 Goethe.**

A critical study of the different periods of Goethe's literary activity.

*Second semester. Three hours. Given in alternate years with Course 17.*

**17 Contemporary German Literature.**

A study of novels, lyrics, and dramas of the modern period portraying the social and political tendencies of the times.

*First and second semesters. Three hours. Given in alternate years with Courses 15 and 16.*

**18 Scientific German.**

For students specializing in science a course of reading in current scientific German is provided. It consists of the reading of German texts and of conversations, discussions, and written work in German, the aim being to familiarize the student with technical German.

*First and second semesters. Three hours.*

**Suggested Groups With Major in German.**

German	24	German	24	German	24
French	16	Latin	16	English	18
English	12	English	6	French	8
History	8	French	8	Philosophy	15
Mathematics	6	Philosophy	15	History	8
Science	10	History	8	Mathematics	6
Philosophy	6	Mathematics	6	Science	10
Bible	8	Science	10	Bible	8
Electives	34	Bible	8	Electives	27
		Electives	23		
	<hr/>		<hr/>		<hr/>
	124		124		124

**French.****11 Elementary French.**

a—Grammar; mastery of verbal inflections, construction of sentences, and idiomatic usages of the French language by constant oral drill and written exercises, with reading of selected stories.

*First semester. Five hours.*

b—Reading of selected intermediate French texts, with conversations, grammatical analysis in French and consecutive French composition.

*Second semester. Five hours.*

## 12 Literary French.

Reading and study of masterpieces of French classic literature, ancient and modern, including both prose and poetry. The texts read will be varied from year to year to give opportunity for additional work in the subject. All class work, oral and written, is in French.

*First and second semesters. Three hours.*

## 13 Scientific French.

This course includes an amount of reading equal to that of course 12, and the method of study is the same. The matter read and studied is intended to represent all departments of scientific study as set forth in the writings of leading French scientists.

*First and second semesters. Three hours.*

# ORATORY AND DRAMATIC LITERATURE.

PROFESSOR M. N. RANKIN.

## Oratory.

The purpose of this department is to develop power of expression, either as general culture, or as preparation for public speaking. The study of great orations and the attempt to render them involves: analysis, interpretation, dramatic sympathy, appreciation of literary style, ability to work with an audience. After studying examples of the various forms of address, application of the principles suggested is required in the preparation of original productions. The courses in debating aim to develop clear thinking, logical reasoning, close observation, quick mastery of expression, persuasiveness, fair methods, and courtesy. Course 11 is especially adapted to the preparation for public recital work. The method of instruction



is that of the Emerson College of Oratory. The system is founded upon the laws of evolution in art, and develops the sources of power through natural expression. It involves culture of the broadest kind, requiring intellectual concentration, esthetic appreciation, and power to control an audience.

Students may be secured as readers by application to the head of the department.

### 11 Literary Interpretation.

Impersonation, dramatic reading, expressive voice culture, responsiveness in gesture, preparation for public recitals.

*First and second semesters. Four hours.*

### 12 Argumentation and Debate.

Study of analysis, evidence, refutation, brief-drawing and presentation; practical application of these principles in debate.

Text-book: Baker and Huntington.

*First and second semesters. Two hours.*

### 13 History of Oratory.

Methods of leading orators, study of famous orations, original speeches, extemporaneous speaking.

Text-books: Hardwick's *History of Oratory*, Baker's *Forms of Public Address*.

*First and second semesters. Two hours.*

### 14 Pulpit Oratory, Bible and Hymn Reading.

*First semester. Two hours.*

### 15 Parliamentary Law.

*First semester. One hour.*

### 16 Voice Culture. Physical Culture.

*First and second semesters. Two hours.*

**Dramatic Literature.**

These courses include the history of the drama, the laws of dramatic art, the analysis of plays, the study of literary style. They emphasize especially the interpretation of character, realizing that the dramatic ability to see from another's standpoint is of fundamental importance to helpful service along all lines.

**11 Dramatic Interpretation of the Book of Job.**

*Second semester. Two hours.*

**12 Shakespeare.**

Thorough study of two tragedies, two comedies, and two historical plays, including: extensive character analysis founded on the text, character sketches, study of ethical problems, dramatic analysis, criticisms by prominent writers, and dramatic interpretation.

Open to Sophomores and Juniors.

*First and second semesters. Two hours.*

**13 Shakespeare: Reading Course.**

The complete works of Shakespeare, his life and art. History of the drama.

Open to Seniors.

*First and second semesters. Three hours.*

**14 Modern Dramas.**

Browning, Tennyson, Phillips, Ibsen, Yeats.

*First and second semesters. Three hours.*

**PHILOSOPHY AND EDUCATION.**

PROFESSOR ROGERS.

**Philosophy.**

The work in this department is designed to familiarize the student with the more fundamental lines of philosophic thought; to enable him to think consistently and independently

on the ultimate problems of reality, the physical world and the human self, and to entertain clear ideas of the relations of these problems to his own life and conduct. To this end the courses in history of philosophy, logic, and psychology have been planned to meet the needs of those students who may elect the work for general culture and discipline, and also for those students who may wish to pursue the work with a special interest in philosophy or education. Courses 11, and either 12 or 13, are required of all students; the others are elective. A minimum of 26 unit hours, including thesis, is required of those students who elect a major in philosophy and education.

### **11 Psychology.**

A study of the general field of psychology from the biological point of view. Recitations, lectures, experiments and demonstrations.

*First semester. Three hours.*

### **12 Logic.**

A study of the principles of correct reasoning, the methods of science, and an outline of the philosophical theory of thought. Recitations, lectures, and practical exercises.

*Second semester. Three hours.*

### **13 History of Ancient and Mediaeval Philosophy.**

Special stress will be placed upon pre-Socratic, Socratic, Platonic, and Aristotelian systems of philosophy, with full outlines and discussions of the scientico-philosophical systems.

*First semester. Three hours.*

### **14 History of Modern Philosophy.**

A study of the development of philosophy from the Renaissance under Greek inspiration to the present century. The influences of religious and scientific thought and of political and economic conditions upon philosophy will be closely traced.

*Second semester. Three hours.*

**15 Ethics and Religion.**

A study of the facts and problems of social life, together with a review of the principal ethical theories. The history and philosophy of religion. Recitations, lectures and collateral reading.

*First semester. Three hours.*

**21 Biblical Psychology.**

A study of the Bible doctrine of man, the development of Christian thought and the grounds of theistic philosophy.

*Second semester. Two hours.*

**Education.**

The work in education is designed primarily to meet the needs of those students who are preparing to become teachers in the high schools and superintendents of the schools in the state. To this end the work is closely related to the courses offered in the other departments of the college. For those students who elect their major in philosophy and education, the academy offers especial opportunities for observation and practice in teaching under competent supervision and criticism. The courses in education are also open to those who may desire the work for general culture and discipline. The work aims to give, on the one side, a knowledge of the development of the child and of the systems and philosophy of education; on the other a training in the principles underlying the subject matter of education. Prerequisite: courses in biology and in psychology and logic.

**16 History of Education.**

Education will be viewed as a process of conscious adjustment. A study of the typical culture periods as revealed by the educational ideals, processes, and institutions will be made. Prerequisite: Philosophy 11 and 12.

*First semester. Three hours.*

**17 Principles of Education.**

The meaning of education considered from the standpoint of: (1) biology, (2) psychology, (3) neurology, (4) anthropology, and (5) sociology. Mental development as affected by heredity and environment. Education as affecting the physical, mental, moral, and religious development of the child and the race. The varying educational aims, varying means, and educational values. The relations of the foregoing to the course of study will be emphasized. Prerequisite: Education 12. The work of this course will include practice teaching in academy classes of the subjects the student is preparing to teach. The practice teaching will be carried on under the direction of the head of the department in which the teaching is being done and under the supervision of the department of education.

*Second semester. Three hours.*

**18 Modern Educational Systems.**

A comparison of the educational systems of Germany, France, England, and the United States will be made, with the historical setting of each. The differences in economic, social, political, and religious conditions as affecting education will be traced. Prerequisite: Education 12.

*First semester. Two hours.*

**19 Child Study: Mental Development.**

The work will cover (1) the theory of development; (2) the general characteristics of development; (3) motor development; and (4) hygiene of development, with special reference to elementary education.

Prerequisite: Philosophy 11.

*First semester. Three hours.*

**20 Adolescence, and Secondary School Problems.**

This course places special emphasis upon the intellectual and emotional development of the period of adolescence and upon the relations of these topics to the high school curriculum. Prerequisite: Philosophy 11.

## Suggested Groups With Major in Philosophy.

Philosophy and Education	30	Philosophy	26	Philosophy	26	Philosophy	26
English	6	English	12	Biology	16	History	16
Mathematics	6	Mathematics	6	English	6	English	6
History	8	History	8	Mathematics	6	German	16
Science	10	Science	10	History	8	French or	
German	16	Latin or French	8	German	16	Latin	8
Latin or French	8	German	16	Chemistry	10	Bible	8
Bible	8	Bible	8	Latin or French	8	Science	10
Electives	28	Electives	30	Bible	8	Mathematics	6
				Electives	20	Electives	28
	124		124		124		124

## PHYSICS.

PROFESSOR DANCEY.

It is the aim of the Department of Physics to present courses which will furnish preparation for technical work, for teaching, or for advanced scientific study. Physics relates itself in such a way to other sciences and to mathematics as to make it a very desirable course for the student who expects to pursue the study of either science, mathematics, or engineering. Courses 11 and 12 are required in all engineering schools, and courses 13 and 14 are usually either required or elective. From the cultural standpoint physics should be of interest to any one who wishes to acquaint himself with the laws of nature. Recent advances in the sciences make the understanding of underlying principles especially desirable.

## 11 General Physics.

This is a course in the fundamental facts and principles of physical science. The work of the class room is closely correlated with that of the laboratory where the student is trained in accurate verifications and proof of physical laws as well as in the care and manipulation of apparatus.

During the first half year mechanics, heat, and sound are studied. Electricity, magnetism, and light form the subject matter during the second semester. Crew's *General Physics* and Hines & Bliss' *Laboratory Manual* are used as texts. Recommended for sophomores.

Two lectures, two quizzes, and two laboratory periods each week. Ten unit hours.



## 12 Mechanics.

The subject of mechanics is here given a much more advanced treatment than in course 11. A study of forces, moments of force, moments of inertia, hydromechanics, etc. This course is recommended to prospective students of engineering and to students of applied mathematics.

*Two recitations and one laboratory exercise each week.*

*First and second semesters. Six unit hours.*

## 13 Electrical Measurements.

In this course the more general laws of electricity and magnetism are discussed, the practical equations employed in the laboratory are derived, and their application in electrical engineering developed. The laboratory work includes the measurement, by one or more methods, of electric currents, resistance, electromotive force, temperature-coefficients, capacity; a study of the magnetic properties of iron and steel; thermo-electric effects; the use of Carey Foster bridge, potentiometer, copper voltameter, etc.

*Two recitations and one laboratory exercise each week.*

*First and second semesters. Six unit hours.*

## 14 Electrical Measurements.

This is a laboratory course open to students who have completed course 13. Standard experiments not undertaken in the more elementary courses will be taken up here. The student will be asked to work out for himself some special problem and to inform himself fully upon the literature of the subject. Each student will arrange his own time for the course and will receive credit corresponding to the time employed.

*First and second semesters. Two to five unit hours.*

## 15 Sound.

An advanced course of lectures and laboratory work in sound wave measurement with mathematical formulae.

*Prerequisites: Courses 11 and 12, Analytical Geometry, and Calculus. First semester. Three unit hours.*

**16 Light.**

An advanced course of lectures and laboratory work, covering the general theory of physical optics, spectrum analysis, and astro-physics, including the theory of optical instruments.

*Prerequisites: Courses 11 and 12, Analytic Geometry, and Calculus. Second semester. Three unit hours.*

**17 Heat.**

An advanced course of lectures and laboratory work, covering the general theory of heat and thermodynamics.

*Prerequisites: Course 11 and Calculus. First and second semesters. Four unit hours.*

**19 The Pedagogy of Physics.**

A course designed for teachers of Physics in high schools, consisting of lectures and discussions upon choice of subject matter and methods of presentation best suited to elementary courses in Physics. The student will here learn by practice laboratory methods of cleaning mercury, glass blowing, soldering, etc.

This course should be carried on in connection with course 17, Department of Philosophy and Education. Credit will be arranged according to the amount of work done.

*Prerequisites: Courses 11 and 12.*

**SOCIOLOGY.**

In this department lectures are given on the general subject of Sociology, together with a survey of the field of social relations, with the view of establishing principles and laws. The course of study offered aims to fit the student to make a personal study of social questions, to interpret modern social problems, and as far as possible to grapple with and understand the perplexing questions of our modern life; thus preparing him for an intelligent and responsible citizenship. By a careful study of the nature and laws of human society it is designed to prepare the student for a continuous study of society and public policy throughout life. The student is made acquainted with a number of the works of our best writers

on the subject of Sociology and social problems. In addition to this more theoretic and scientific study, the practical side of the subject is emphasized. Each student is enabled, through the lectures and by means of wide reading and discussions in the class room, to secure a general appreciation and understanding of modern social and civic conditions. The dependent class will be studied with special reference to slum conditions; the defective class, together with the treatment of the same; and the delinquent class, with the causes and prevention of crime. Personal acquaintance is secured with some important phases of present social and civic life by visits to charitable and penal institutions and agencies of social betterment in and about Milwaukee.

### 11 General Sociology.

Gidding's *Elements of Sociology*. The nature and laws of human society, familiarizing the pupil with the principal forms of social organization; with the thoughts, the sympathies, the purposes, and the virtues that make society possible; with the benefits that society confers; and with the conduct that worthy membership of society requires.

*First semester. Three hours.*

### 12 Practical Sociology.

Henderson's *Social Elements*. The object of this course is to direct attention to the phenomena of human associations; to teach the methods of classifying facts of this order; to give training in the search for efficient causes; to show how to interpret social duties which arise out of conditions and relations; and especially to show the connection of order and progress with the institutions and methods of education.

*Second semester. Three hours.*

## Department of Music.

Every effort has been made to make this one of the strong musical schools of the state. The best talent has been secured, and the department has been so organized as to give a complete course of study with certificates of graduation. The expense has been made as low as is consistent with the high grade of teaching, and it is hoped that this department will be appreciated by all friends of the college.

### VOICE.

GERTRUDE HELENE OGDEN.

The voice department is in charge of Miss Gertrude Helene Ogden. Her work before the public has been varied and extensive, and many of her pupils have graduated into professional work.

The aim of this department is to obtain as results: elimination of nervousness through conscious mental and physical poise; the actual possession of the real or true tone; the ability to express all thought or emotion through a perfectly developed organ, or instrument—voice; perfect intonation of every note in the human compass; full resonance by scientific development of the various resonators; dramatic and soft tones equally free, flexible, and pure; all consonants and vowels distinct and of equal intensity on every note of the voice, besides notes in reserve at either end of the ordinary singing compass, so that the highest and lowest notes will be safe and sure; and, with all, the general physical strength to meet these requirements.

The student must also become a thorough musician, his attainment in the knowledge of his art keeping pace with his voice development. The pupil, in order to teach, must demonstrate before the teacher and class his ability to discriminate tonally, and to get the same results that he has been able to realize. As a teacher he must have a thorough musical and general education.

**Elementary Course.**

First Principles: Position of body; mental and physical poise.

Technic: Tone placement; tone development.

Study of vowels.

Simple songs.

**Intermediate Course.**

Technic.

Tonal development.

Study of vowel and consonant sounds.

Diction: Pronunciation; enunciation.

Songs.

**Advanced Course.**

Technic.

Tonal development.

Interpretation.

Classical Songs: Ancient, modern.

Folk lore.

Oratorio.

Opera.

Study of program building.

**PIANO.****HAZEL ELIZABETH DAHLMANN.**

Miss Dahlmann, teacher of Piano, Harmony, and History of Music, is a young woman of considerable experience and ability. She has been, for several years, connected with such schools as Oxford College, Oxford, Ohio, and Potter College, Bowling Green, Kentucky, where her work has met with great success. She is a graduate of Chicago Musical College, and has had the advantages of study with such artists as Hans von Schiller and Arthur Speed. Miss Dahlmann also studied Theory and Harmony under Alexander von Fielitz, History of Music and Composition under Felix Barowski. She is well known in musical circles as one of the younger concert pianists and is daily gaining ground in that field.

The regular course as prescribed for this department is divided into three classes:

1. Preparatory Class.
2. Teacher's Certificate Class.
3. Graduating Class.

As the ability of no two pupils is the same, it is impossible to say just how long a pupil may continue in these classes, the progress being due entirely to ability, and to the amount of work done. For completion of the Teacher's Certificate Class, a thorough knowledge of harmony is required through modulation, as well as the course prescribed in History of Music. For graduation, the student must perform in public a program embracing representative works from advanced piano literature, in addition to having completed the course outlined for the Teacher's Certificate Class. An additional course in harmony, embracing canonic imitation and counterpoint, is required, as well as a perfect understanding of ensemble work, concerto playing, etc.

It is impossible to set down any list of studies to be strictly adhered to, as the needs of the individual pupil must be consulted, and the studies varied accordingly. However, an idea of the work covered in the different classes may be obtained from the following:

#### **Preparatory Class.**

Damm: *Piano School*. Various technical studies; scales; chords, etc.

Czerny: *Velocity Studies*. Loeschorn, Concone, Bertini, Hasert, Heller and others.

Clementi, Kuhlau: *Sonatinas*. Beethoven, Haydn, Mozart: *Easier Sonatas*.

Solos from modern composers.

#### **Teacher's Certificate Class.**

Pichna, MacDowell: *Technical Studies*.

Cramer, Heller: *Etudes*.

Czerny: *Studies*, continued.

Bach, Händel: *Suites*.

Chopin: Easier works.



Solos from Mendelssohn, Grieg, Moskowsky, MacDowell, Chaminade and others.

### Graduating Class.

Tausig, Brahms, Liszt, MacDowell and Pichna: *Studies*.

Clementi: *Gradus ad Parnassum*.

Bach: *Well tempered clavier*.

Moscheles: *Etudes*, Op. 70.

Chopin: *Etudes*. Other works of Chopin. Schumann, Liszt, Beethoven: Sonatas, Concertos, and other selected compositions.

## HISTORY OF MUSIC.

HAZEL ELIZABETH DAHLMANN.

The department lays special stress upon this branch of musical education. The evolution of this wonderful art, from its crudest to its most perfect forms is carefully traced, and all phases are treated in this interesting subject. The music course requires one year's work in musical history. The class lessons are held twice a week, and two credits per semester are given for this work. The work is taken for the most part from "Matthew's History of Music." During the second semester, when the lives of the composers are studied, and the growth of opera and orchestral music, a great number of other excellent works are used. The college library possesses a large number of suitable reference books for the pursuit of this study. It is recommended to others, besides those taking only a musical course, as a delightful study, and a most profitable one in that it provides an opportunity to know more about the growth and progress of this important art.

## OTHER MUSIC.

Instruction is given on other instruments, such as organ, violin, guitar, and mandolin.

General music work is open to all students, as well as classes for beginners and advanced students in chorus work.

There are a Young Men's Glee Club under the direction of

Professor Goddard, a Young Ladies' Glee Club with Mrs. Goddard as leader, and a Mandolin Club, directed by Miss Willson.

Public recitals are occasionally given.

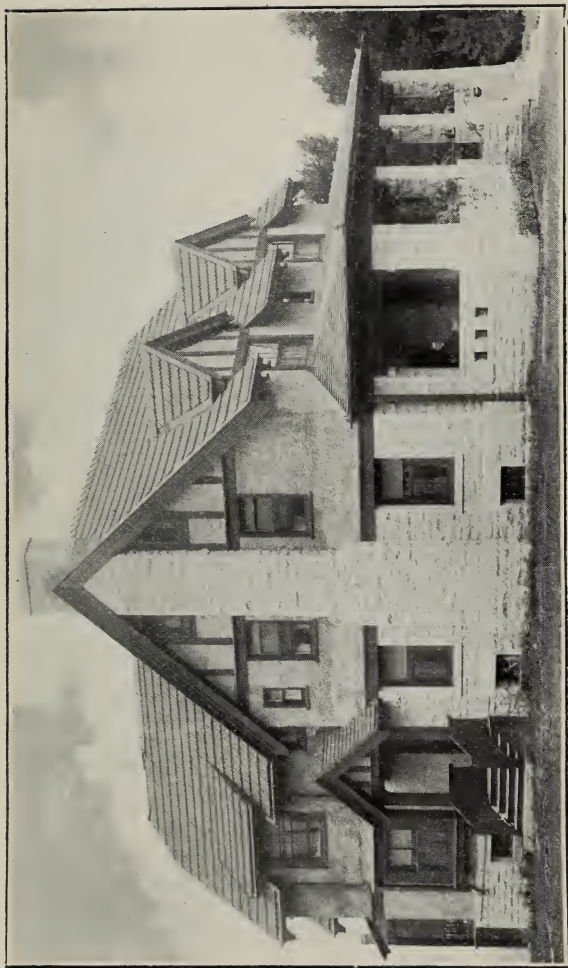
#### SCHEDULE OF EXPENSES.

For a semester  
of 18 weeks.

Piano, 2 lessons per week.....	\$36.00
Piano, 1 lesson per week.....	18.00
Voice, 2 lessons per week.....	36.00
Voice, 1 lesson per week.....	18.00
Violin, 2 lessons per week.....	36.00
Violin, 1 lesson per week.....	18.00
History of music, (Class Lessons).....	5.00
Harmony, (Class Lessons).....	5.00
Rent of Piano, one hour per day.....	4.00

#### STENOGRAPHY.

A course in Stenography is offered to all students desiring to become proficient in stenography and typewriting. A fee of \$15.00 is charged for the course. Those desiring to rent typewriters can do so at small expense.



VOORHEES COTTAGE.



## Physical Department.

MR. MCJOHNSTON, PHYSICAL DIRECTOR.

### The Object of the Work.

The work of this department affords every student the means of acquiring physical health and mental vigor. It is optional, and is made eminently recreative and pleasant, thus freeing the student from the constant strain of study. All students, and especially Freshmen and Sophomores, are advised to pursue regular work in the gymnasium. Credit to the amount of four unit hours will be granted for such work toward the Bachelor's degree. The institution zealously encourages all pure and healthful recreation, and gives its support and direction to all indoor and outdoor games, subordinating them, however, to their place in the college curriculum.

### The Gymnasium.

Carroll College possesses a modern and well equipped gymnasium. It measures 40x73 feet, is eighteen feet in height, and is finished in Georgia pine. The gymnasium, together with the locker rooms and shower bath, occupy the ground floor of Voorhees Hall. There are windows on three sides affording sufficient sunlight, and strict attention is paid to ventilation. The inside lighting is by caged electric lights. There are two hand-ball courts in the gymnasium, and a commodious basket ball court. Above the gymnasium floor is a good running track, and a punching bag platform.

### The Equipment.

The apparatus includes dumb bells, Indian clubs, bar bells, striking bag, wrist and finger machines, Swedish bars, pulley weights, horse, buck, horizontal and parallel bars, climbing ropes, traveling rings, spring board, vaulting poles, jumping standards, and all necessary apparatus for indoor athletics. In connection with the gymnasium are the bath rooms, provided with both tub and shower baths, and with a sufficient supply of

hot and cold water. Adjoining the men's bath room is the locker room, where a convenient, roomy, and well ventilated locker is provided for the use of each student. This room is the dressing room for the members of the athletic teams. Racks for bicycle storage are provided in the lower hall, with entrance from the west.

### **System of Exercises.**

The system of exercises taught is thoroughly practical and is adapted to those who lead a sedentary life.

The work for the men is systematized as follows: In the fall term military marching, calisthenics, stall bar, mat work, and games; in the winter term the same work with the addition of the horse, horizontal and parallel bars; in the spring term athletic exercises are added, such as jumping, pole vaulting, and running.

Two hours of gymnasium work per week are provided for all women students. The exercise consists of marching, calisthenics, free hand gymnastics, and use of wands, Indian clubs and light apparatus. During the winter season special attention is given to basket ball. The recreative feature is made prominent in all of the gymnasium work.

The gymnasium work of the young men is given Monday and Wednesday of each week, from 4 to 4:45 p. m., with opportunity for voluntary work on Friday and Saturday forenoons. The work of the young women is given on Tuesday and Thursday of each week from 4 to 4:45, with voluntary work Saturday afternoons. The gymnasium season begins soon after the opening of the fall term and extends to about the tenth of April.

### **Competitive Indoor Sports.**

A schedule of basket ball games, relay races, etc., is prepared and carried on during the season of gymnasium work. These games come at the close of the calisthenic and apparatus work of the day. This series of games is carried on by classes both of the young men and of the young ladies. An athletic contest is held each month which adds materially to the indoor sport and recreation.



**Outdoor Sports.**

The students of the college engage in foot ball, base ball and track athletics. Carroll is a member of the conference of Northern Illinois and Wisconsin Colleges and participates each year in a number of inter-collegiate contests with neighboring colleges. Carroll College stands for clean, wholesome athletics and adheres to the spirit as well as the letter of the regulations adopted by the conference colleges. While the college lends every encouragement to inter-collegiate athletics it requires that this work be subordinated to the regular work of the school. All inter-collegiate contests are under the direction of the athletic association and the athletic committee of the faculty. The foot-ball and base-ball teams, with their managers and captains, are responsible to the athletic association and look to it for support. No student who is deficient in any of his work will be permitted to participate in any inter-collegiate contest.

## The Academy.

Four years of academy instruction are given, in preparation for college, or for the needs of practical life.

The Academy is a member of the North Central Association of Colleges and Secondary Schools, and its diploma admits to any college or university.

Students from the public schools who wish to enter the Academy must show that they have successfully passed the eighth grade work, or that they hold a certificate of graduation from the upper form of the district school. Others who wish to enter on examination should present a certificate showing specifically the work done in the different branches of study, with examination standing.

Candidates for admission to the higher classes must exhibit a satisfactory certificate, or pass an examination on all the work of the previous years.

Irregular students may take an elective course, but will not be admitted to classes in which they cannot do good work. Special facilities are afforded to those who need to make up certain branches, provided they show suitable capacity and determination.

All candidates, unless known to the faculty, must present testimonials to good moral character, and certificates of regular dismission will be required from those who have been students of other schools.

### Courses of Study.

One unit in any study signifies one daily recitation for the school year.

Summary of units offered: Latin 4, German 2, Mathematics 3, Science 4, History 3, English 4, Oratory 2. From these 22 units, 15 units are required for graduation. All students are required to take the work in Bible and gymnastics, or an equivalent of the latter.

The following units are required of all:

English 3, Mathematics  $2\frac{1}{2}$ , History 1, Science 1.

One of the following groups must also be taken:

Group A—Latin 4; German 2; History 1; Elective 1.

Group B—Latin 4, or Latin 2 and German 2; Mathematics 1; History 1; Elective 2.

Group C—Latin 2, or German 2; Mathematics 1; History 1; Science 1; Oratory 1; Elective 2.

That the above requirements may be met, there are offered for the first year's work, Latin, English, Algebra, Physiography; for the second year, Latin, English, Geometry, History; for the third year, Latin, German, Geometry, Algebra, History, English, Biology; for the fourth year, Latin, German, Physics, History, English, Oratory. Oratory is given credit only as a fourth year of English.

These requirements and electives are also exhibited in the following tabular form:

GROUP A.

FIRST YEAR.	SECOND YEAR.	THIRD YEAR.	FOURTH YEAR.
Latin English Physiography Algebra Bible	Latin English Geometry History Bible	Latin German Mathematics English History Bible	Latin German Science, English, Oratory or History Bible

GROUP B.

FIRST YEAR.	SECOND YEAR.	THIRD YEAR.	FOURTH YEAR.
Latin English Physiography Algebra Bible	Latin English Geometry History Bible	Latin or German Biology Mathematics English or History Bible	Latin or German Physics English Oratory, or History Bible

GROUP C.

FIRST YEAR.	SECOND YEAR.	THIRD YEAR.	FOURTH YEAR.
Latin English Physiography Algebra Bible	Latin English Geometry. History Bible	Biology Mathematics English or History Bible	Physics English or Oratory History Bible Elective

GROUP D.

FIRST YEAR.	SECOND YEAR.	THIRD YEAR.	FOURTH YEAR.
English Physiography Algebra Bible Elective from other years	English Geometry History Bible Elective from other years	German Mathematics Biology English or History Bible	German Physics English, Oratory or History Bible Elective

Any study dropped without faculty consent obtained in advance shall count as a failure. All failures and conditions must be made up before a diploma will be granted.

## BIOLOGY.

The main object of the work in biology in the Academy is to acquaint students with the character and distribution of plant and animal life, especially in the local region, and to develop an understanding of the life activities of plants and animals, and the relation of these to human life. The biological equipment of Rankin Hall of Science is available for this work.

### 1 Zoology.

The work of this course covers the ground treated in Davenport's *Introduction to Zoology* or Linville and Kelly's *Text Book in General Zoology*. From six to eight hours of laboratory work are required each week. Frequent field trips are taken for the study of animals in their natural homes. A note book for drawings, and written descriptions in connection with the field and laboratory work are required of each student. Five periods of two hours each are devoted to the work each week. *Third year; first semester.*

### 2 Botany.

This course deals with plants much as course 1 deals with animals. The scope of the work is represented by Stevens' *Introduction to Botany* or Bergen's *Elements of Botany*. Practical applications to agriculture are emphasized. Morphology is dealt with only in its relations to function and life activity. Development and study of plants in the laboratory are made prominent. Laboratory and field work are carried on as in course 1, and, in connection with these, notes and drawings are made. *Third year; second semester; five hours.*

## EDUCATION.

### 1 General Pedagogy.

This course is designed primarily for students who are without experience in teaching or for those who have not pursued

the courses in general psychology or logic. The aim will be to acquaint the student with the laws governing mental development and the arts and methods employed by the teacher in teaching the various subjects, and with the principles of school hygiene and school economy.

*Second semester. Three hours.*

## ENGLISH.

The course of study in the Academy extends through four years, and includes the study of grammar, rhetoric, composition, and literature.

### 1 Grammar and Composition.

Review of English Grammar. Weekly themes: simple narratives and descriptions. Literature: classics required for college entrance.

### 2 Composition and Literature.

Narratives and descriptions based upon writer's experience and observation, or upon texts read in class. Literature: English classics.

### 3 Rhetoric and Literature.

Study of principles of composition. Literature: English classics.

### 4 Rhetoric and Literature.

Study of the kinds of composition. Composition. Literature: History of English and American literature. Classics.

## GERMAN.

### 1 German Grammar and Lessons.

Bacon, *German Grammar and Reader*. Volkmann, *Kleine Geschichten*. Storm's *Immensee*. Simple conversation based on practical subjects. Memorizing of German poems and idioms.

*First and second semesters. Five hours.*

## 2 German Readings.

Grammar reviewed. Hillern, *Höher als die Kirche*, Zschokke, *Der zerbrochene Krug*. Syntax, based on Allen's *German Stories, Part I*. Lessing's *Minna von Barnhelm*. Memorizing of poems. A very thorough course is given in composition and conversation, Lambert's "*Alltägliches*" being used as a text-book.

*First and second semesters. Five hours.*

## HISTORY AND CIVICS.

The object of the courses in History will be: to interest the student in history studies; to furnish a knowledge of the facts of general history; to provide a thorough preparation for the more advanced courses in History and Politics in the College; and to give the young man or woman who may not go beyond the Academy a course of study which may lead to a better appreciation of his own times and thereby prepare for a more intelligent and active participation in the responsibilities and duties of citizenship.

### 1 Ancient History.

From the Earliest Times to 800 A. D.

*Second year. Five hours.*

### 2 Mediaeval and Modern History.

Europe from the Death of Charlemagne to the Present Time.

*Third year. Four hours.*

### 3 History of the United States. Civics.

*Fourth year. Four hours.*

## LATIN.

The methods employed involve grammatical drill, accuracy and fluency in translation, and extended work in Latin Composition. Correct pronunciation with special regard to quantity is insisted on from the beginning. The life and works of each author with their historical settings, are carefully studied.



**1 First Year.**

Elementary Latin. Inflections and constructions. Translations and elementary prose. Outline of Roman History. *Five hours.*

**2 Second Year.**

Latin Grammar. Caesar's *Commentaries*, four books. Latin Prose, twenty lessons. *Five hours.*

**3 Third Year.**

Cicero, six orations, and selected letters. Latin Prose, completed. *Five hours.*

**4 Fourth Year.**

Virgil's *Aeneid*, six books; Mythology. *Five hours.*

**MATHEMATICS.**

The courses in Academy Mathematics are prepared and conducted with a view to fit the student for entrance to any standard college and at the same time to give a thorough preparation for practical life. Many students will find the Academy their finishing school and should be prepared for business calculations and business thought. Constant drill, therefore, in the thought processes is considered the chief essential.

**1 Algebra.**

This course is pursued the first year and extends through Quadratic Equations. Mastery of elementary processes with accuracy and rapidity, rather than the solution of complex problems, is the aim in this introductory work.

*First year.*

**2 Plane Geometry.**

Open to students who have had course 1 or its equivalent. The fundamental propositions are demonstrated and discussed. Special attention is given to a limited number of original

theorems and problems, accompanied by appropriate constructions and measurements.

*Second year.*

### 3 Solid Geometry.

Open to students who have had courses 1 and 2 or their equivalent. Special attention is given to the applications of Solid Geometry to practical problems in mensuration.

*Third year. First semester.*

### 4 Algebra.

Open to students who have had course 1, and preferably 2 and 3. This is a continuation of course 1 and includes a review of some of the subjects of that course. Advanced work in ratio, proportion and variation, the progressions and logarithms is pursued. Preparation for College Mathematics demands this course.

*Third year. Second semester.*

## ORATORY.

To pupils who have taken the required three years' course in English one credit in English will be given for a year's work in Oratory or Shakespeare.

### 1 Literary Interpretation.

Declamation, recitation, extemporaneous speaking, debate, voice culture, gesture. The text-book used consists of selections from the masterpieces of literature, including the Bible. In order to impress an audience with the sentiments of these great works it is necessary that the student learn to think with the authors; thus thought power and literary taste are developed, as well as larger views and sympathies.

### 2 Shakespeare.

Thorough study of one tragedy, one comedy, and one of the historical plays, including: extensive character analysis founded on the text; character sketches; thorough understand-

ing of the text; dramatic analysis; memorizing passages; study of criticisms by prominent writers; dramatic interpretation. The study of Shakespeare interests the student in ethical problems, broadens his sympathies, elevates his ideals and establishes a taste for good literature.

## PHYSICS.

### 1 Elementary Physics.

A study of the elementary principles and phenomena of Physics, largely non-mathematical. The work will consist of class room demonstrations, recitations, and laboratory work. The laboratory work and the class room work are carefully differentiated and at the same time closely correlated. In the first semester Mechanics, Heat and Magnetism will be studied. In the second semester the laws and phenomena of Electricity, Sound and Light will be discussed. The class room work is based upon Millikan and Gale's *First Course in Physics*. Each student will perform fifty experiments in the laboratory. Millikan and Gale's *Laboratory Course in Physics* will be used as a guide. Each student will have an assigned place for work in the laboratory. Neatness and accuracy in the laboratory work and clearness in the expression of the results obtained from the experiments will be insisted upon. This course should be taken by all students who expect to take Chemistry in the Freshman year and by all students who expect to pursue advanced work in any science. Open to students in the last year of the Academy.

*Two hours of recitation or laboratory work per day throughout the year. Five unit hours.*

## PHYSIOGRAPHY.

### 1 Physical Geography.

This is an introductory science course, which aims to develop a general understanding of earth phenomena, and to train pupils in the habit of scientific study. The subject includes five divisions. The first treats of the earth sphere, and

the aim is to develop the concept of a spherical earth and lead to an understanding of the facts and phenomena which result. The second division treats of the land, or lithosphere. The agencies operating on the land, the resulting features, and the relation of these to man, are considered. The third division treats of the water, or hydrosphere. This is studied in its relations to the land and the atmosphere, and to man. The fourth division treats of the air, or atmosphere, which is dealt with in its relation to heat, moisture and weather, and to man. The fifth division is the life or biosphere, which is treated as to distribution, relation to physical conditions and to man.

*Daily recitations; first year, first semester.*

## 2 Industrial Geography.

This course aims to establish the relation between physical conditions and industrial development. The industrial development of the United States is taken as the fundamental unit of study. Its relative and absolute location, and its climate and other physical conditions, are considered. Then its natural resources, its manufactures, and its commercial relations are studied, and its future development pictured. Other countries are studied relatively to the United States. A large collection of natural and manufactured products has been made in connection with this work. The scientific idea of casual relations is emphasized throughout, and principles rather than facts alone, are made prominent.

*Daily recitations; first year, second semester.*

## GENERAL INFORMATION.

### Student Organizations.

Several voluntary organizations among the students serve to direct into useful channels the various phases of student interest and activity.

#### Christian Associations.

Two very active and prosperous Christian organizations, one the Young Men's Christian Association, the other the Young Women's Christian Association, provide a very pleasant center for the religious life of the college. These associations have their prayer meetings for one-half hour at noon on Wednesdays, the young men and young women meeting in their separate halls. On Monday night is held a weekly college prayer meeting under the joint auspices of the faculty and these two associations. This meeting is frequently addressed by some member of the faculty or by one of the pastors or Christian workers of the city. These several services furnish the occasion and means of very great help and inspiration to all who attend, and they also promote a delightful Christian spirit in the college.

These societies have recently provided and furnished attractive and homelike rooms for study and reading and conference, and welcome here all students of the college.

#### Musical Clubs.

The three musical organizations of the college, the Men's Glee Club, the Ladies' Glee Club, and the Mandolin Club, supplement in a very practical way the work of the musical department of the college, and afford valuable training in chorus and orchestra work. A concert tour is made each year by the Glee and Mandolin Clubs.

#### Literary Societies.

Two societies for literary culture—the Aristonian and the Philomathean—provide centers and stimulus for the impulse to

independent, original literary expression. Their work consists of debates, studies of individual authors, orations, papers, book reviews, and discussion of events of present interest. They have furnished and equipped in attractive manner the halls provided for their use in the new Rankin Hall of Science. An annual debate is held between the two societies and a prize or trophy awarded to the winning society.

### **The Carroll Echo.**

For a number of years the students have edited and published a monthly paper under the name of *The Carroll Echo*. Not only has this stimulated literary production among the students, and given happy expression to many phases of college life, but it has been a welcome visitor to homes of the alumni and other friends, and has been an effective medium of communication between the present student body and former students. A distinct advance in the appearance and character of the publication has been made during the last few years. Its handsome dress, its interesting and witty articles, and its unique features of original illustration have attracted very favorable comment and have given it a high standing among papers of its class.

### **Oratorical League.**

The Carroll College Oratorical League is composed of representatives of the literary societies, and has control of the local debates and oratorical contests. Two preliminary contests, and one final contest, in Oratory are held each year. The winners in the final contest are the representatives of the college in the annual contest of the Wisconsin Intercollegiate Oratorical Association. The League also arranges for an annual prize debate between the literary societies of the college.

### **Athletic Association.**

The Athletic Association represents the organized athletic interests of the college. Under its auspices the intercollegiate games in which the college participates are carried on. Detailed information of the athletic work of the college will be found in the statement of the Physical Department.



## Social Life.

The demands of young people for recreation and their need of social culture and enjoyment receive recognition and encouragement. Students are given as much liberty in social affairs as is consistent with the standard of scholarship and with the responsibility of the faculty for their welfare. Social events, in which members of the school participate, and class parties, are usually restricted to Friday and Saturday evenings, and are always under the supervision of the faculty.

## Book Store.

A college book store is maintained, on the first floor of Voorhees Hall, where books and other necessary supplies may be obtained at reasonable prices.

## Expenses.

The college year consists of 36 weeks and is divided into two semesters. Tuition bills are due in advance. No reduction is made for brief absences. If not paid within two weeks of the beginning of the semester \$1.00 is added to the tuition. The rates are as follows:

College: Per year, \$40.00

Academy: 1st year, \$30.00

2d year, \$32.00

3d year, \$34.00

4th year, \$36.00

An incidental fee, including library and athletic fee, for all students, per semester, \$2.50.

Commencement expenses for graduation:

From the Academy, \$2.50

From the College, \$5.00

## Laboratory Fees.

In all laboratory courses small fees are charged to cover the cost of material used in the laboratory. The fees, per

semester, are as follows: Chemistry, \$5.00; Biology, \$4.00; Physics, \$3.00; Mineralogy, \$2.50. An annual breakage deposit of \$5.00 in Chemistry, and of \$1.00 in Biology will be required of each student. This deposit, or such part of it as has not been charged against the student for breakage, will be refunded at the close of the year.

In the Academy the laboratory fees are as follows: Biology, \$2.50; Physics, \$2.50.

Laboratory fees must be paid in advance. Under no conditions will they be refunded.

### **Living Expenses for Men.**

A very important part of the expense for students is the cost of living; therefore every effort is made to keep this as low as possible. Excellent rooms, convenient to the college, may be had at from seventy-five cents to \$2.00 per week. Table board is furnished by the college at \$3.00 per week, and in private families at a similar rate. Opportunities for boarding in student clubs reduce still further the possible expense.

### **Living Expenses for Women.**

The rooms of the Elizabeth Voorhees Dormitory are single and double, or may be used en suite. Each occupant of a room has her own closet. The price of rooms, including heating and lighting, ranges from \$13.50 to \$40.50 per semester. The rate for table board is \$3.00 per week. Rooms are furnished with college cot, mattress, pillow, study chairs, dresser with mirror, wash stand, bowl and pitcher. The floors are of hard wood and students desiring rugs may furnish them. Bedding, window curtains, couch covers, table covers, napkins, and all other articles of convenience or adornment are furnished by each student.

Single rooms are 9x13 ft., and double rooms 12½x13½ ft.; windows, 38x64 in.; study tables, 2x3 ft.

Application for admission should be made early. A deposit of \$5.00 is required from those engaging rooms, and a choice will be made according to such application. The deposit may be returned if the engagement is cancelled three weeks before the opening of the semester.

## Opportunities for Self-Help.

There are many opportunities in the city for self-help. Most students desiring to help themselves can earn a considerable portion of their expenses during the year. Several young ladies find opportunities as helpers in homes for their board, and young men are able to find work in the homes, offices and factories of the city.

## REGULATIONS.

### Attendance.

Students must be prompt and regular in attendance. Tardiness and absence are fatal to good work. Persistence in these habits cannot be tolerated. The authorities of the college believe that the measure of value which the student derives from his work is adequately estimated, not by written examinations alone, but also by his presence and attention in the daily class exercises. Any student, therefore, who absents himself from classes without furnishing an acceptable excuse to his instructor may expect his standing to be lowered accordingly. Repetitions of such irregularity after due warning will deprive the student of his credit.

Students are required to attend the daily Chapel exercise, and a morning service on Sunday in the church of their choice, determined at their entrance.

### Study Hours.

Students are required to keep regular study hours, setting apart at least two hours each evening, or the equivalent of this, for home study. Friday evening is excepted. Social affairs are discouraged on the first four evenings of the school week. Social gatherings must be reported to the President in advance and his approval secured.

### Supervision.

While it is the purpose of the college to encourage self-government and to grant to students as much freedom as is consistent with their best interests and with the good order of the school, yet it is deemed necessary that students should be at all times under the supervision of the faculty.

Non-resident young women are required to live in the dormitory unless special permission to live elsewhere be given by the Faculty.

Whenever it becomes apparent that a student's influence is harmful to other students he will be requested by the Faculty to leave the school.

The use of tobacco is forbidden. Failure to observe this rule may constitute cause for dismissal from the college.

Students who have not at least a fair ability to acquire knowledge, and a reasonable willingness to study, will not be allowed to remain in the school.

### **Examinations and Grades.**

Such tests and recitation period examinations are given from time to time as instructors may think necessary. At the close of each semester, four days are set apart, on which instructors give examinations covering a part, or the whole, of the semester's work. Full reports, embracing the work of each semester, are sent to the parents for their inspection. The passing mark of the school is 70. Those who are marked between 60 and 70 are said to be "conditioned" and may have an opportunity to make up the work. Those who are marked below 60 are regarded as having failed in the work, and in most cases will need to take the work over again.

## Roll of Students.

### COLLEGE.

#### Senior Class.

Cattanach, Lila Ann	Marshfield, Wis.
Colby, Alice Mary	Bellevue, Pa.
Hooper, Florence Maude	Troy Center, Wis.
Peterson, Hallie Scott	Omro, Wis.
Hartman, Willard Carl	Waukesha, Wis.
Maule, Howard Wesley	Dousman, Wis.

#### Junior Class.

Hartness, Rebekah Mary	Waukesha, Wis.
Lean, Inez	Waukesha, Wis.
McFetridge, Clarissa May	Oshkosh, Wis.
Craven, Alexander Robert	Waukesha, Wis.
Fries, Arthur Abel	Waterford, Wis.
Fries, John Edmund	Waterford, Wis.
Holt, Harvey Ellis	Oconomowoc, Wis.
James, Frank Gordon	Chicago, Ill.
Johnson, Eddie Edward	Wausau, Wis.
Kerr, Joseph	Lowell, Mass.
Palmer, Frederick Rodman	Waukesha, Wis.
Phillips, Matthias J. W.	Waukesha, Wis.
Van Griethuysen, Claude Andre	Oostburg, Wis.
Ver Stratte, John	Sheboygan Falls, Wis.
Young, Elmer Frank	Wausau, Wis.

#### Sophomore Class.

Anderson, Beatrice Elizabeth	Shawano, Wis.
Anderson, Bernice Janet	Shawano, Wis.
Cleverdon, Helen Frances	Chicago, Ill.
Dancey, Jennie Hazel	Fairbury, Ill.
Phillips, Myrtle Agnes	Waukesha, Wis.
Pulling, Dorothy Webster	Marshfield, Wis.





PROPOSED PLAN OF GROUNDS AND BUILDINGS.



Rehburg, Luella May  
 Richards, Mary America  
 Schneider, Ada Emma  
 Schulz, Meta Helen  
 Smith, Edna Marie  
 Stoltz, Edna Beatrice  
 Avery, Charles Henry  
 Burke, Kenneth Richard  
 Copps, Clinton William  
 Davies, John Rees  
 Erickson, Louis Ockie  
 Evans, Ewart Owen  
 Huenink, Henry Lawrence  
 Lang, Emil Henry  
 Leek, Raymond Wilbur  
 Porter, Lawrence Clarke  
 Pritchard, Frank  
 Spooner, Walter Deloss  
 Upham, William Nathan  
 Weaver, Andrew Thomas

Waukesha, Wis.  
 Sharon Springs, Kan.  
 Merton, Wis.  
 Merrill, Wis.  
 Longton, Kan.  
 Sechlerville, Wis.  
 Quincy, Wis.  
 Manitowoc, Wis.  
 Stevens Point, Wis.  
 Racine, Wis.  
 Wausaukee, Wis.  
 Genesee Depot, Wis.  
 Cedar Grove, Wis.  
 Waukesha, Wis.  
 Racine, Wis.  
 Cambridge, Wis.  
 Manitowoc, Wis.  
 Green Bay, Wis.  
 Marshfield, Wis.  
 Sussex, Wis.

Freshman Class.

Anderson, Laurel Eleanor  
 Baber, Florence Edith  
 Bean, Gertrude Sydnie  
 Campbell, Bessie Boardwin  
 Carrier, Cornelia Myrta  
 Griffith, Ellen Margaret  
 DeMaster, Josephine Cynthia (sp)  
 Hanson, Mabel Lillian  
 Hayden, Theodosia Adella (sp)  
 Horne, Ella Margaret  
 Johnson, Adah Jessup  
 Johnson, Elfleda Laura  
 Larkin, Laura Evelyn  
 McLean, Agnes Derby  
 Walvoord, Ada Adeline  
 Ayres, Augustus Townsend (sp)  
 Bismark, Clinton Orr  
 Black, John Curtis

Manitowoc, Wis.  
 Chicago, Ill.  
 Waukesha, Wis.  
 Wausau, Wis.  
 Waukesha, Wis.  
 Waukesha, Wis.  
 Baldwin, Wis.  
 Neenah, Wis.  
 Kilbourn, Wis.  
 La Crosse, Wis.  
 Manitowoc, Wis.  
 Poynette, Wis.  
 Oconomowoc, Wis.  
 Waukesha, Wis.  
 Cedar Grove, Wis.  
 Oshkosh, Wis.  
 Wausau, Wis.  
 Shawano, Wis.

Hanson, Edward Wilbur	Three Lakes, Wis.
Laney, Willard John	Dousman, Wis.
McLean, Calvin James	Waukesha, Wis.
Merriam, Chauncey Lot	Ringle, Wis.
Miller, Henry George	Cambria, Wis.
Rhine, Walter Charles	Waukesha, Wis.
Ross, Leslie Hugh	Waukesha, Wis.
Smart, Orren David	Waukesha, Wis.
Smith, Warren Braman	Waukesha, Wis.
Strand, Loyd Mabie	Mellen, Wis.
Thomas, Alvin Richard	Nashotah, Wis.
Torhorst, Harry Arthur	Waukesha, Wis.

### ACADEMY.

#### Fourth Year.

Bellows, Marguerite Ida	Chicago, Ill.
Buchan, Katherine Frances	Waukesha, Wis.
Douglass, Hazel Aliston	Waukesha, Wis.
Drought, Jennie Adaline	Waukesha, Wis.
Lees, Lilly May	Sussex, Wis.
Norton, Edna Alberta	Marinette, Wis.
Solverson, Gladys Vivian	Nashotah, Wis.
Strong, Lillie May	Waukesha, Wis.
Watt, Ella Jeanette	Waukesha, Wis.
Wiley, Jean Ballentine	Chicago, Ill.
Brightman, Herbert Wandel	Wausaukee, Wis.
Campbell, Hugh Martin	Wausau, Wis.
Davies, Zachariah	Waukesha, Wis.
Finn, Edward Albert	Mukwonago, Wis.
Fuller, Asa Kent	Wausau, Wis.
Guenther, Oscar Frederic	Campbellsport, Wis.
Hendricks, Ray Andrew	Campbellsport, Wis.
Jones, Ira David	Wales, Wis.
Lunt, Alfred Davis	Genesee Depot, Wis.
Moe, Olaf Rudolph	Wausaukee, Wis.
Phelps, Frederick Lehman	Waukesha, Wis.
Quaw, Stephen Duane	Wausau, Wis.
Romaine, Eldon Van	Campbellsport, Wis.

Textor, Arthur Henry	Wausau, Wis.
Williams, Edward Thomas	Wales, Wis.
Williamson, Rowland William	Waukesha, Wis.

### Third Year.

Douglass, Olive Florence	Waukesha, Wis.
Edwards, Catherine Anderson	Nashotah, Wis.
Howard, Beatrice M.	Waukesha, Wis.
Johnson, Ethel Viola	Waukesha, Wis.
Johnstone, Genevra	Abbotsford, Wis.
McNamer, Daisy Lulu	Antioch, Ill.
Mills, Mabel	Wales, Wis.
Mitchell, Ethel Anna	Brookfield, Wis.
Nohr, Agnes Josephine	Waupaca, Wis.
Palmer, Alice Webber	Waukesha, Wis.
Wheeler, Dorothy May	Waukesha, Wis.
Abel, Carl Frederick	Templeton, Wis.
Archbold, Arthur Adrian	Chicago, Ill.
Bemis, Edwin Loren	Milwaukee, Wis.
Benjamin, Mooshie Sargis	Oroomia, Persia.
Feiring, Julius Ferdinand	Waukesha, Wis.
Gardner, Clarence	Waukesha, Wis.
Gaynor, William John	Waukesha, Wis.
Gilham, Wyn Frederic Wm.	Wausau, Wis.
Jones, Dewitt	Wales, Wis.
Jones, Eugene	Dousman, Wis.
Kuhnert, Harry Carl	Waukesha, Wis.
Lee, Henry Rhodes	Oostburg, Wis.
McDonald, Guy Foster	Arbor Vitae, Wis.
Roberts, Frank Louis	Waukesha, Wis.
Shannon, James Ellsworth	Antioch, Ill.
Siewert, Arthur Alfred	Colgate, Wis.
Tibbits, Armand Rhodes	Waukesha, Wis.
Van Langdon, Emil	Green Bay, Wis.
Williamson, Chester Hubbard	Waukesha, Wis.
Winton, Arthur Vanderpool	Prospect, Wis.

## Second Year.

Beheim Lillian	Waukesha, Wis.
Champeny, Bernice	Hartland, Wis.
Fries, Grace Julian	Waterford, Wis.
Jensen, Olga Eleanor	Oshkosh, Wis.
McKenzie, Ethelyn	Mukwonago, Wis.
Staab, Elsie May	Waukesha, Wis.
Adams, Wesley Chapman	Waukesha, Wis.
Breese, Clinton Samuel	Waukesha, Wis.
Champeny, Talbert Everett	Hartland, Wis.
Daniel, John Thomas	Cambria, Wis.
Freye, Benjamin Henry	Neshkoro, Wis.
Guthrie, Chauncey Tilyard	Waukesha, Wis.
Guthrie, Horace Kier	Waukesha, Wis.
Hartman, Howard Albert	Waukesha, Wis.
Johnson, Edward John	Melrose, Wis.
McFarlane, Robert Moses	North Prairie, Wis.
Roeseler, Oscar Edwin	Waukesha, Wis.
Saunders, Oliver Charles	Dousman, Wis.
Smith, Eugene Louis	Lake Beulah, Wis.
Turner, William Porter	Waukesha, Wis.
Weaver, Ray Bennett	Sussex, Wis.
Williams, William Thomas	Waukesha, Wis.

## First Year.

Bartholomew, Ethelwyn Louise	Racine, Wis.
Chapman, Lucy Leola	Waukesha, Wis.
Cowie, May Rice	Waukesha, Wis.
Erdman, Sadie Hudson	Waukesha, Wis.
Fry, Vora May	Necedah, Wis.
Hartness, Margaret VanNess	Waukesha, Wis.
Jenkins, Ruth Mary	Wales, Wis.
Mills, Gladys	Wales, Wis.
Roeseler, Edna Louise	Waukesha, Wis.
Ryan, Josephine Agnes	Waukesha, Wis.
Seaman, Hortense	Lake Beulah, Wis.
Watt, Grace Alberta	Waukesha, Wis.
Armstrong, Lewis Walton	Milwaukee, Wis.
Busse, Walter August	Colgate, Wis.



Darling, James Roland,  
 Dey, Albert Van Brunt  
 Federer, Francis Albert  
 Fenlon, Frank Taylor  
 Gaspar, Harold Lee  
 Glasgow, Elkins Hersman  
 Hoffman, Erwin William  
 Love, Addison Forbes  
 Parsons, William Astor  
 Schaub, William Adolph  
 Siewert, William Edward  
 Wagner, William Ernest  
 Whitmore, Earl Freeman  
 Winton, Howard Abram  
 Young, John Harrison

Mukwonago, Wis.  
 Waukesha, Wis.  
 Waukesha, Wis.  
 Waukesha, Wis.  
 Waukesha, Wis.  
 Woodson, Ill.  
 Pewaukee, Wis.  
 Waukesha, Wis.  
 Chicago, Ill.  
 Wilkinsburg, Pa.  
 Colgate, Wis.  
 Dundee, Ill.  
 Rockford, Ill.  
 Prospect, Wis.  
 North Bend, Wis.

**Special.**

Erdman, Margaret Augusta  
 Hamer, Georgia Newton  
 Snoeyenbos, Gertrude

Waukesha, Wis.  
 Marinette, Wis.  
 Baldwin, Wis.

**Music.**

Anderson, Beatrice  
 Anderson, Laurel  
 Bartholomew, Ethelwyn  
 Busse, Ella  
 Busse, Lilly  
 Carrier, Cornelia  
 Cleverdon, Helen  
 Dancey, Jennie  
 DeMaster, Josephine  
 Drought, Jennie  
 Fry, Vora May  
 Goddard, Amber  
 Goddard, Grace  
 Hamer, Georgia  
 Hayden, Theodosia  
 Hooper, Florence

Shawano, Wis.  
 Manitowoc, Wis.  
 Racine, Wis.  
 Brookfield, Wis.  
 Pewaukee, Wis.  
 Waukesha, Wis.  
 Chicago, Ill.  
 Fairbury, Ill.  
 Baldwin, Wis.  
 Waukesha, Wis.  
 Necedah, Wis.  
 Waukesha, Wis.  
 Waukesha, Wis.  
 Marinette, Wis.  
 Kilbourn, Wis.  
 Troy Center, Wis.

Horne, Ella	La Crosse, Wis.
Johnson, Adah	Manitowoc, Wis.
Johnstone, Genevra	Abbotsford, Wis.
McNamer, Daisy	Antioch, Ill.
Norton, Edna	Marinette, Wis.
Pitts, Allie	Waukesha, Wis.
Pulling, Dorothy	Marshfield, Wis.
Ross, Jessie	Waukesha, Wis.
Schulz, Meta	Merrill, Wis.
Snoeyenbos, Gertrude	Baldwin, Wis.
Armstrong, Lewis	Milwaukee, Wis.
Benjamin, Mooshie	Oroomia, Persia.
Butler, Rev. Frederick	Waukesha, Wis.
Davies, John	Racine, Wis.
Goddard, H. N.	Waukesha, Wis.
James, Frank	Chicago, Ill.
McJohnston, Harrison	Waukesha, Wis.
Parsons, William	Antioch, Ill.

## SUMMARY.

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## ACADEMY :

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Total . . . . . 222

Counted more than once . . . . . 25

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Net Total . . . . . 197

OFFICERS OF THE ALUMNI ASSOCIATION.

GEORGE F. ZOECKLER, '06, President.

RICHARD W. ROWLANDS, '02, Vice-President.

GRACE CARLETON, '02, Secretary.

MRS. T. A. TORHORST, '97, Treasurer.

Executive Committee.

M. C. OTTO, '02, three years.

H. D. SAWYER, '08, two years.

JAMES THOMAS, '92, one year.

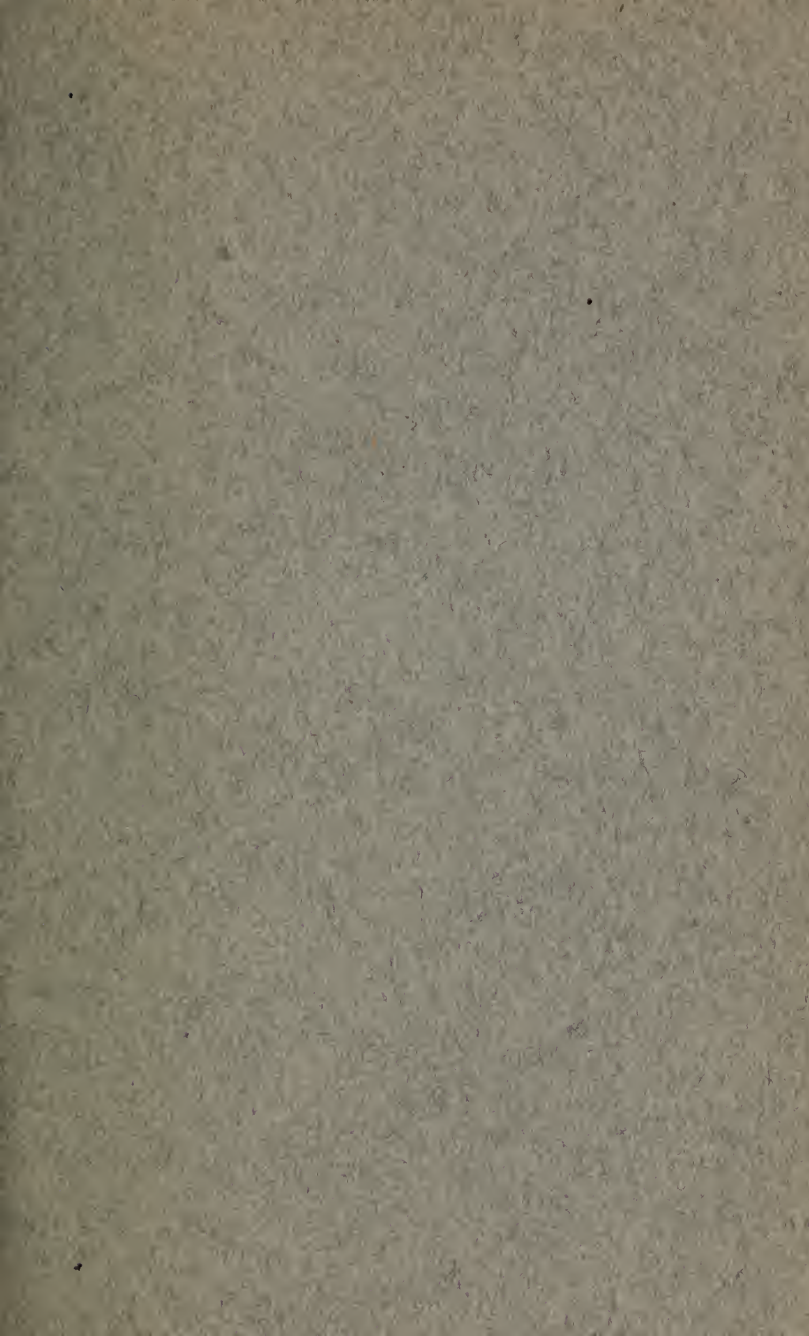
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